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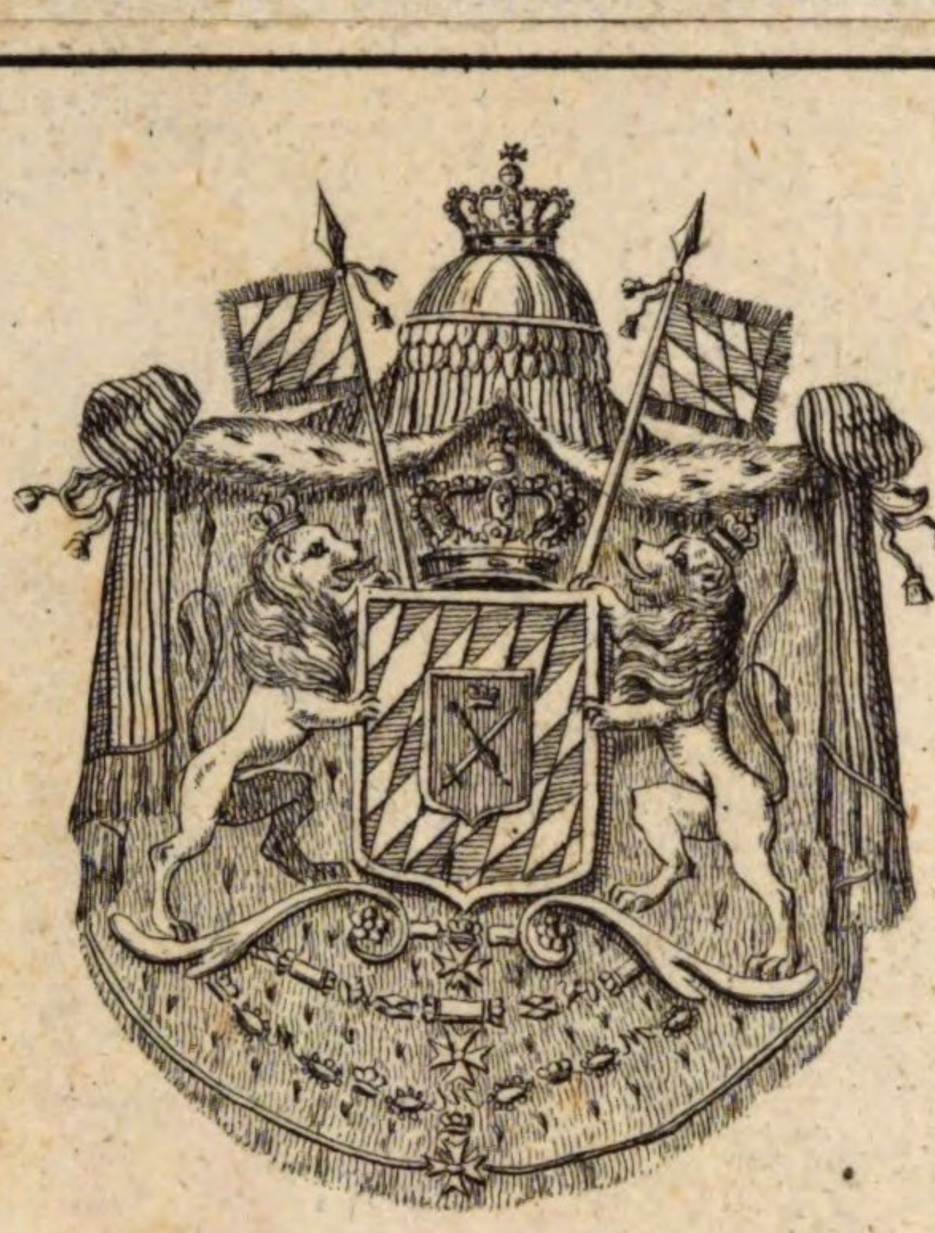

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Zoological Illustrations,

OR

ORIGINAL FIGURES AND DESCRIPTIONS

OF

NEW, RARE, OR INTERESTING

ANIMALS,

SELECTED CHIEFLY FROM THE CLASSES OF

Ornithology, Entomology, and Conchology,

AND ARRANGED ON THE PRINCIPLES OF

CUVIER AND OTHER MODERN ZOOLOGISTS.

BY

WILLIAM SWAINSON, F.R.S., F.L.S.,

MEMBER OF THE WERNERIAN SOCIETY OF EDINBURGH, ETC.

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1821-2.

BIBLIOTHECA
REGIA
MONACENSIS.

TO

SIR JAMES EDWARD SMITH, M.D.

FOUNDER AND PRESIDENT OF

THE LINNÆAN SOCIETY OF LONDON,

FELLOW OF THE ROYAL SOCIETY, AND MEMBER OF THE
PRINCIPAL SCIENTIFIC SOCIETIES BOTH IN
EUROPE AND AMERICA,

THE FIRST AND SECOND VOLUMES

OF

Zoological Illustrations

ARE DEDICATED,

AS A SMALL, BUT SINCERE TRIBUTE TO THE EMINENT TALENTS OF

THE PHILOSOPHER,

AND THE EXCELLENT QUALITIES OF

THE MAN.

GENERAL INDEX

OF

LATIN AND ENGLISH NAMES

TO

VOL. II.

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67.

HALCYON cinnamominus,

Cinnamon Crabeater.

GENERIC CHARACTER.—See Pl. 26.

SPECIFIC CHARACTER.

H. cæruleo-viridis; pileo, collo, plumesque totis subtùs pallidè cinnamominis; auribus viridibus; nuchâ torque nigro gracili ornatâ.

Blue-green; upper part of the head, neck, and all beneath, pale cinnamon colour; ears green; round the nape a slender black collar.

As far as I can ascertain, this beautifully coloured bird is quite new, and hitherto undescribed. It is in the possession of Mr. Leadbeater, of Brewer Street, by whom it was received from New Zealand; and who gave me the opportunity of now publishing the accompanying figure and description.

The two extreme points of difference in the Linnæan kingfishers, are seen in the *Alcedo Ispida*, and *A. gigantia;* the last of which has been made into the genus *Dacelo*. It will, nevertheless, be found, that from among the birds left in the old genus, there are a great number, (of which, indeed, this bird is a striking example,) which are much nearer allied to *Dacelo* than to *Alcedo*, where they now stand. It will appear, therefore, more natural to consider *Halcyon* and *Dacelo* as one genus — which may be called by either name, but which must be distinguished by the characters herein given to *Halcyon*, inasmuch as the generic definition of *Dacelo* (founded on one bird) will be found too restricted to comprehend all.

Total length ten inches; bill two and a half from the gape, and one and a half from the nostrils; the tip of the upper mandible with a slight inclination downwards, and with an appearance of a notch; the whole head, neck, and under plumage, of a delicate fawn colour; under wing covers the same; the remaining upper plumage, with the wings and tail, changeable blue green; ears sea green and dusky, united to a narrow black nuchal collar; wings four inches long, and the tail, which is even, three and a quarter; the hind head is slightly crested, and the feet pale brown.

Pl. 67.

POGONIAS rubrifrons,

Red-fronted Toothbill.

Generic Character.

Rostrum mediocre, crassum, validum, basi latiore quam altiore, vibrissis longis incumbentibus tectâ, lateribus ultra basin compressis, culmine arcuato, subcarinato; mandibulæ superioris margine dentibus 1 *vel* 2 *armato, mandibulæ inferioris marginem obtegente. Nares approximantes, parvæ, rotundæ, per rostri basin perforatæ. Pedes scansorii, digitis posticis versatilibus.*

Typus Genericus *Buceo Dubius* Lath.

Bill moderate, thick, strong, the base broader than high, with long incumbent bristles, the sides beyond compressed, the top arched, and slightly carinated; upper mandible with one or two strong teeth on each side, the margin folding over that of the lower mandible; nostrils approximating, small, round, perforated through the base of the bill. Feet scansorial. Hind toe versatile.

Generic Type *Doubtful Barbut* Lath.

Specific Character.

P. niger; sincipite juguloque rubris; alis et caudâ fuscis; tegminum margine externo albo, remigum fulvo.

Glossy black; forepart of the head and throat red; wings and tail brown; external margin of the covers white, and of the quills yellow.

The Linnæan Barbuts, comprehended by Latham under one genus, contain three distinct groups of birds; which, from their peculiar characters, no less than their geographic position, have now received generic distinctions. The first of these (which are still retained under the old genus,) are natives of Asia; the next in affinity were first characterized by Illiger under the name of *Pogonias*, and are distributed on the African continent; while the prototype genus in America is *Tamatia* (Cuvier), in which continent not any of the two preceding have been found: thus each quarter of the globe lying within the tropics have their corresponding groups of a family, possessing a general, but at the same time an individuality of character.

I am obliged to Mr. Leadbeater for the opportunity of figuring this new and rare species, which he believes to have come from Sierra Leone. Its total length was six inches; the under-covers of the wings white; the tail two inches long, the feathers broad and even.

THECLA Galathea,
Red-bordered Hair-streak.

GENERIC CHARACTER.

Antennæ clavo elongato, compresso, obtuso terminatæ. Palpi exserti, recti, approximantes, squamis obtecti, imberbes, articulo ultimo nudo, gracili, acuto. Oculi semicirculares. Alæ anticæ trigonæ; posticæ dentatæ, caudatæ, lobo ad angulum analem obtuso, concavo, quem sedentes vibrant, instructæ. Thorax validus. Abdomen gracile.

Typus Genericus *Papilio Betulæ, &c.* Lin.

Antennæ ending in a lengthened, compressed, and obtuse club. Palpi excerted, approximating, covered with scales, but without hairs, the last joint naked, slender, acute. Eyes semi-circular. Anterior wings trigonal, the hinder dentated, generally tailed, with an obtuse concave lobe at their anal angle, which is generally in motion when the insect is at rest. Thorax strong; body slender.

Generic Type *Papilio Betulæ, &c.* Lin.

SPECIFIC CHARACTER.

T. alis fuscis, colore violaceo nitidis, posticis caudatis, margine rubro, subtus maculo nigro lunulâque rubrâ ornatis; lobo anali suprà ærato, subtus nigro.

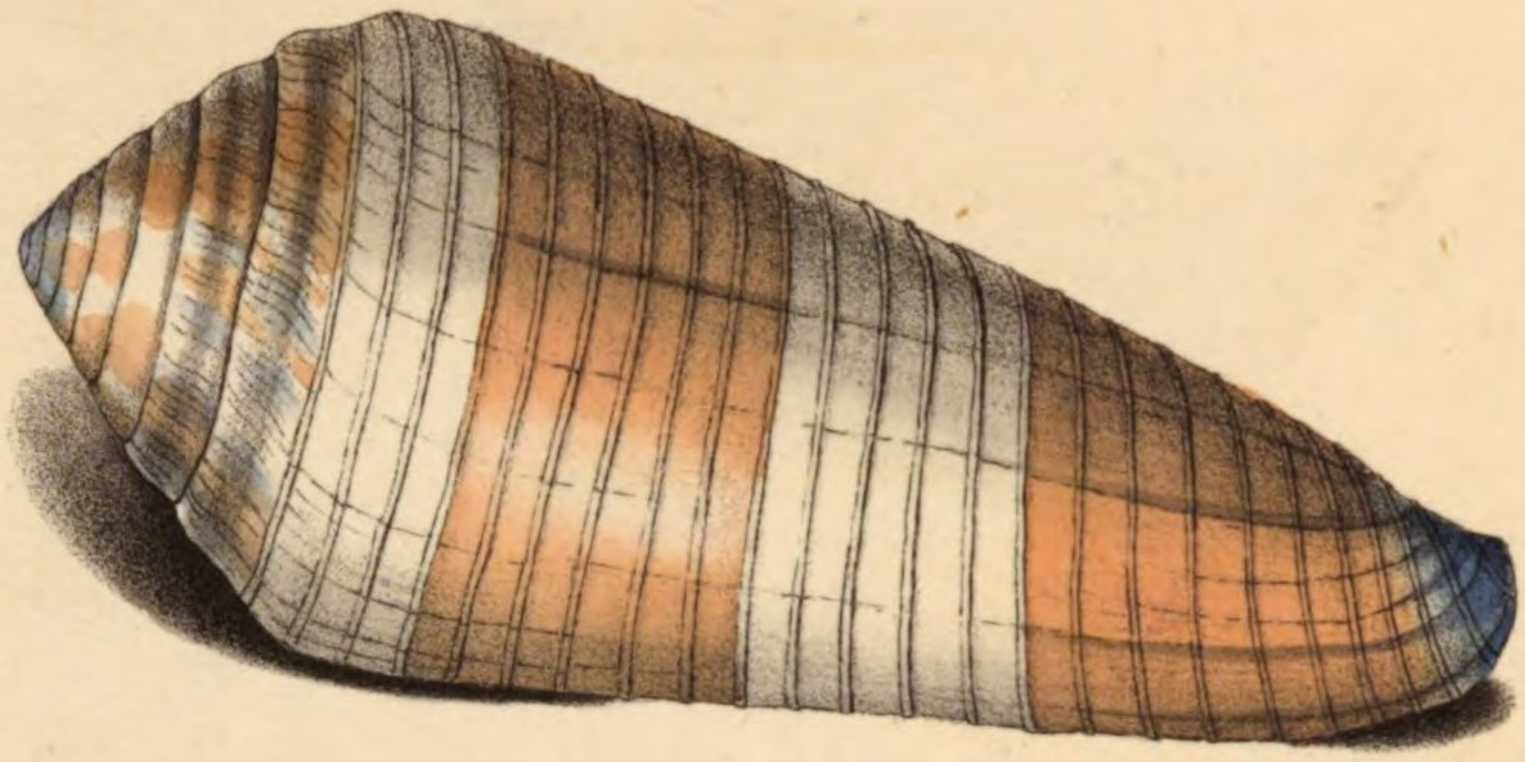
Wings brown, glossed with violet; posterior tailed, with a red margin, beneath with a black spot and red lunule, anal lobe above bronzed, beneath black.

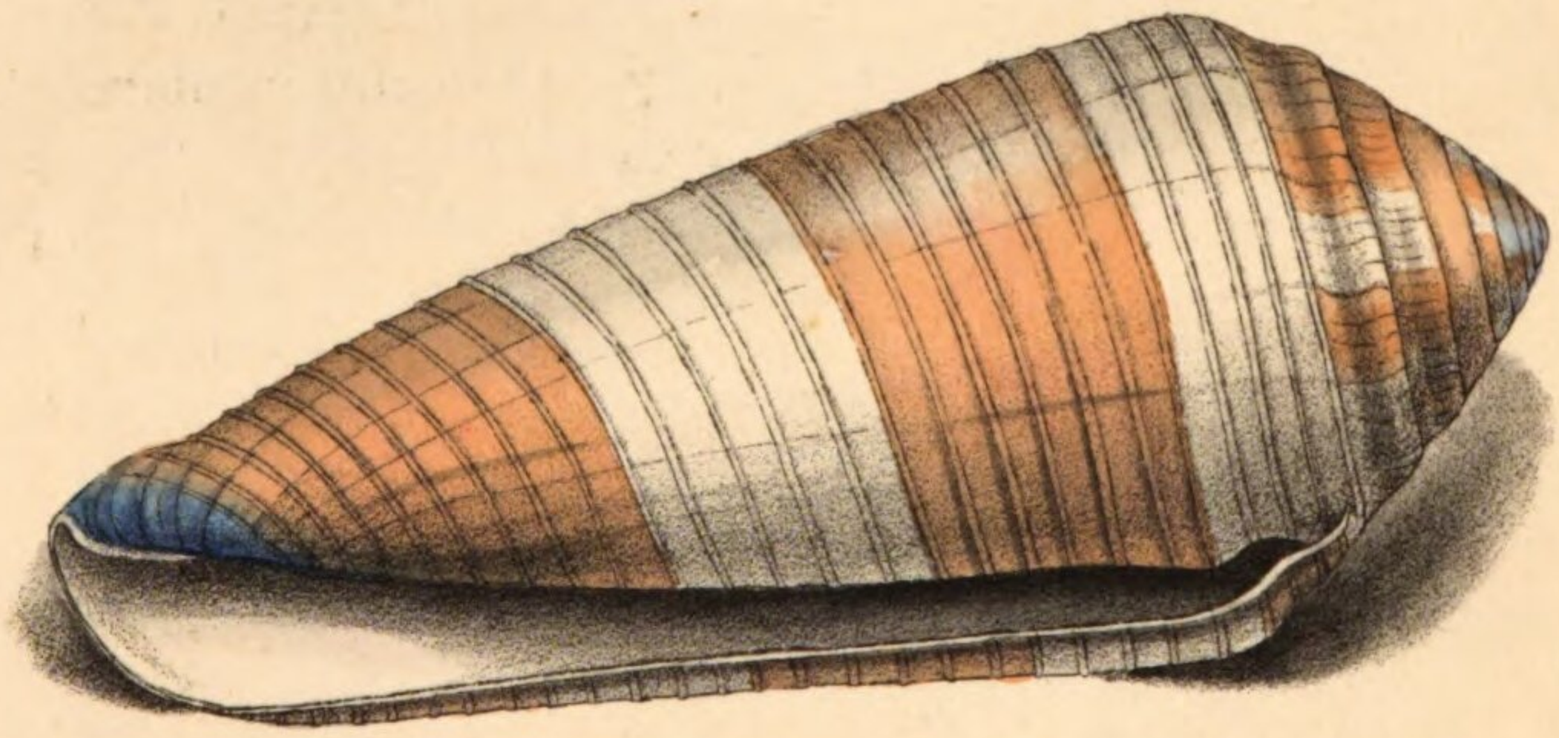
THE beautiful little Butterflies included by Fabricius in this genus, are scattered over all parts of the world, but are most numerous within the tropics, and particularly in South America, for in Brazil alone I collected near 120 species. They are an obvious and very natural family, though the species are as yet but little understood, and not one half of them described. I have observed a singular peculiarity in a great many of these insects, which is, that when they are at rest in the sun, the lower wings are constantly in a quick vibrating motion up and down, as if the insect was rubbing them together, more particularly where the two lobes (or obtuse tails) of the under wings meet, though what purpose this is intended to accomplish remains unknown.

The upper surface of the wings in the greatest number of the *Hair streaks* (as they are aptly called by English collectors) are of various shades of vivid blue, so that the species can only be ascertained from the under markings, which are usually very striking and delicate: they are all of a small size.

This is an African species, and both sexes are in the cabinet of my friend Mr. Haworth.

Pl. 69.





CONUS terebra,

Screw Cane.

GENERIC CHARACTER.—See Pl. 65.

SPECIFIC CHARACTER.

C. cylindraceo-elongatus, albidus, striis transversis elevatis, fasciique binis flavescentibus, spirâ crassâ obtusâ. Lam.

Cylindric elongated; whitish, with two yellowish bands, and transverse elevated striæ; spire thick, obtuse.

Conus Terebellum. *Gmelin*, p. 3390. 44. (omitting the varieties). *Martini* 2. *tab.* 52. *fig.* 577. *Seba*, 42. *fig.* 13. (uncoated). *Ency. Meth.* 339. *fig.* 1.

Conus Terebra. *Lamarck. Annal. du Mus.* vol. xv. p. 427. *no.* 144. *Var.* A, without bands.

Ency. Methodique, 339. *fig.* 2.

THOUGH this is not an uncommon Shell, it is rarely seen so large as that now represented from the cabinet of Mrs. Bolton of Storrs. Of this extensive genus Lamarck has written a valuable account in the Annals of the French Museum, where he has rightly pointed out the mistake of Gmelin in placing as varieties of this species, one or two other very distinct shells: the colour of the bands is not always certain, for I have seen specimens in which they were of a dark brown; but the very thick spire, and slender form of the body whirl, with the distant, regular, and greatly elevated striæ, renders it a species not easily mistaken, though in general form it comes very near to *C. nussatella*, and two or three others; the spiral volutions are deeply concave, and the tip and base tinged with violet.

It is a native of the Indian seas.

STROMBUS mutabilis,
Little pink-mouthed Strombus.

GENERIC CHARACTER.—See Pl. 10.

SPECIFIC CHARACTER.

S. anfractu basali nodoso; spirâ brevi tantum non lævi; lineâ sulcatâ suturæ parallelâ; labio exteriore supra gibbo, margine recto, interiore crasso, cum exteriore striato; apertura pallidè rubicundâ, basi truncatâ.

Basal whirl nodulous; spire short, nearly smooth, with a sulcated line parallel with the suture; outer lip above gibbous, the margin straight; inner lip thick, both striated; aperture flesh colour; base truncated.

Seba, tab. 61. *fig.* 26 *&* 27, 32 *&* 33, 54. *tab.* 62. *fig.* 42 *&* 43? *Martini* 3. *tab.* 77, 799. *fig.* 78, 807. *Knorr.* 2, 14. *fig.* 3. *Rump.* 37. W.

THE specific distinction given by Linnæus to *Strombus urseus* is so loose, that his followers have referred all the small species of this genus to the numerous varieties he has quoted, though few will doubt that many permanent species have been thus overlooked; among these the one now characterized is an example, the most striking distinctions of which are in the spire being never plaited, and always much shorter than the mouth, which latter is either nearly white, or of a flesh colour; in its external colouring no two speçimens will be found alike. It is not an uncommon shell from the East Indies, and seldom grows larger than the figure.

STROMBUS dilatatus,
Winged Strombus — middle figures.

S. testâ transversè striatâ; spirâ mediocri, plicis numerosis gracibus; labio exteriore dilatato, rotundato, crassissimo, reflexo; interiore suprà crassescente, medio lævi; aperturâ striatâ.

Shell transversely striated; spire moderate, with slender numerous plaits; outer lip dilated, rounded, very thick, and reflected; inner lip thickened above, smooth in the middle; aperture striated.

AN undescribed species, and of the greatest rarity, for I have never seen any other specimen, than one in my own cabinet, although perfect in form, it is obviously faded in colour; yet it is too remarkable to be mistaken for any other of this interesting family, which requires so much illustration.

Pl. 71.

POGONIAS hirsutus,

Hairy-breasted Toothbill.

GENERIC CHARACTER.—See Pl. 68.

SPECIFIC CHARACTER.

P. supra fuscus, maculis sulphureis, subtus sulphureus maculis nigris interstinctus, capite juguloque nigris; pectoris plumis elongatis, pilis setaceis terminatis.

Above brown, spotted with sulphur; beneath sulphureous, with black spots; head and chin black; feathers of the breast lengthened, and ending in long setaceous hairs.

I HAVE before observed, that this genus of birds was first characterized under the name of *Pogonias*, by Illiger, in 1811; some years after (1815), M. Vieillot changed the name to *Pogonia*, without taking any notice of Illiger's denomination, and Dr. Leach has followed Vieillot without probably being aware of the plagiarism; Vieillot's name must, however, be expunged, as Mr. Brown has some time back affixed the name of *Pogonia* to a remarkable genus of plants.

Total length about seven inches; bill blueish black, one inch two lines long, and large in proportion; the tooth in the middle very prominent; behind the eye is a short white stripe, and another much longer begins from the under mandible, and goes half way down the neck; the chin and part of the throat, together with the head and neck above, deep black, which changes to a dark brown on the back, wings, covers, and tail; a small round sulphur spot is on the tip of each feather of the hind head, back, and lesser wing covers; the quills pale brown, margined with sulphur; the under plumage is greenish sulphur, closely spotted with blackish; the most extraordinary peculiarity of this bird consists in the feathers of the breast, which are more rigid than the others, pointed, and the shaft of the lower ones ending in fine incurved setaceous hairs, many of which are near an inch long. The probable use this particular formation is intended for, it is impossible to conjecture.

Mr. B. Leadbeater, to whom I am often obliged for the inspection of rare subjects, received this from Africa, and it is the only individual of the species I ever heard of.

PSITTACUS pulchellus,

Turcosine Parrakeet.

GENERIC CHARACTER.— See Pl. 1.

SPECIFIC CHARACTER.

P. macrourus, suprà viridis, subtùs fulvus; sincipite, genis, tegminibusque cyaneis, remigibus cæruleis; rectricibus lateralibus fulvis.

Long-tailed Parrakeet, green above; yellow beneath; forepart of the head, cheeks, and wing covers light blue; quills deep blue; lateral tail feathers yellow.

Shaw, Naturalist's Misc. 3. *pl.* 96. *Latham, Suppl.* 2. *p.* 88. *no.* 14.
La Perruche Edwards, Le Vaillant, pl. 68. (female). *Gen. Zool.* 8, 470.

IT is impossible to represent this superbly coloured little creature in its full beauty, though the figure will not be found very defective. The only representation of the male is in the Naturalist's Miscellany, where it cannot be recognized, and Le Vaillant's is of the female, which differs considerably from the other sex. It is a rare species, and peculiar to New Holland.

Length nine inches, with the tail, which is near four inches and a half; the upper part of the plumage olive green, not so bright as is usual in this tribe; the front of the head is a most brilliant turcosine blue, which spreads on the cheeks, nearly to the ears, and then mixes with the green; the shoulders and lesser wing covers of the same colour, graduating to a deep mazarine blue on the greater covers, spurious wings, and quill feathers, which latter are all deep black beneath, as well as on their interior shafts; at the base of the shoulders is a large irregular patch of dull red, partially hid by the scapulars; the under plumage is yellow, tinged with olive on the throat and breast, and verging towards orange on the belly; tail feathers narrow and pointed, mostly green, with the inner shafts blueish, and margined with black; the three outer on each side nearly yellow, the next tipt only with that colour; under the wings brilliant blue, the greater covers and quills deep black; bill very small; upper mandible without a notch, and blackish; lower very convex, and, with the legs, flesh colour.

The female figured by Le Vaillant is much less brilliant in all its colours, and without the red mark on the shoulders.

Holland.

Laugh nine inches with the full mouth is nose. Low-crowned hat, with the brim curled regularly all round; bell-shaped skirt, with multiple flounces; double-breasted jacket with large lapels; top hat with curved brim.

Le Vaillant's is of the female, which differs considerably from the male. Its prevailing colour is green, varied with yellow, orange and red. The only representative of the genus in its full beauty, though the tints are not so vivid as in the male. Naturalist's Miscellany. Very delicate. Le Vaillant is much less brilliant in

It is impossible to exhibit this variety [illegible]

GENERIC CHARACTER.

PSITTACUS Linnæus

Linnæus Parrakeet.

ACHATINA fasciata,

Chesnut-banded Achatina.

GENERIC CHARACTER.—See Pl. 30.

SPECIFIC CHARACTER.

A. testâ albâ fasciis latis lineisque castaneis ornatâ; spirâ elongatâ, crassescente; labio interiore semi-circulari, intus depresso; columellâ truncatâ, emarginatâ.

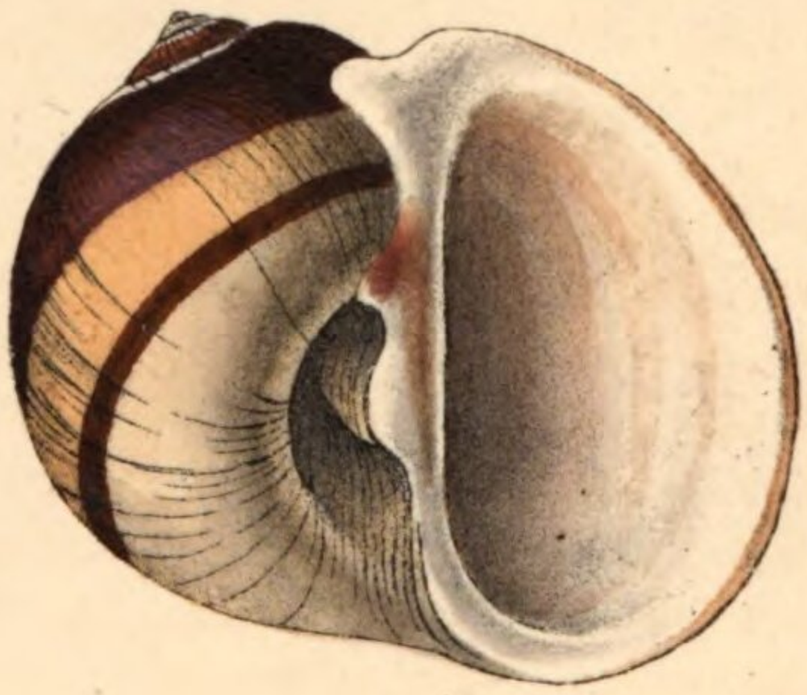
Shell white, with broad chesnut bands and lines; spire elongated, thickened; inner lip semi-circular, depressed within; columella truncated, emarginate.

Bulla fasciata. *Gmelin* 3430, 25. *Martini* 9. *tab.* 117, 1004 to 6. *Lister* 12, 7. *Seba, tab.* 39. *fig.* 62 to 74. *Gualtieri, tab.* 6. *fig.* C.

HAVING figured two or three species allied to this shell, it appears advisable to subjoin a more particular notice of it, and to point out those characters by which it may be detected through its numerous variations: this has been endeavoured in the specific character now formed, and appears to rest principally on the inner lip, which is always semicircular, down which, if closely examined inside, there is a depression as if it had been pared down with a knife; the base of the pillar also is so strongly truncated as to appear notched, and the broadest part of the mouth is always in the middle; these characters have been very ill attended to in all the figures above quoted, of which Seba gives no less than eleven, which vary only in the disposition and number of their bands.

Gualtieri's figure at *tab.* 6. *fig.* D, is an admirable representation of *A. pallida*, which, not having his work before me at the time, I could not quote; the other at C is a very good one of the present shell. The upper drawing is from one in my own cabinet; the lower is in the possession of Mr. C. Dubois, who is continually adding to his fine and valuable collection.

It is almost unnecessary to contradict the opinion of some writers who have fancied this a *fresh-water* shell. It is not uncommon, but seldom seen in perfection.



NATICA spadicea,
Banded Natica.

Generic Character.

Testa subglobosa seu ovalis, umbilicata. Spira depressa, brevissima. Columella umbilici medio terminans. Apertura semiorbicularis, operculo corneo vel testaceo clausa. Animal marinum, pede maximo; oculis ad basin duorum tentaculorum simplicium positis.

Typus Genericus *Nerita Glaucina* Pennant.

Shell nearly globose, or oval, umbilicated. Spire depressed, very small. Columella terminating in the middle of the umbilicus. Aperture semi-circular, operculum either horny or testaceous. Animal marine, with a large foot; the eyes placed at the base of two simple tentacula.

Generic Type *Nerita Glaucina* Pennant, &c.

Specific Character.

N. testâ sub-globosâ, fuscâ, albo fulvoque fasciatâ, juxta suturam striatâ; labio exteriore suprà leviter emarginato; umbilico magno, aperto; columellâ obsoletè terminante.

Shell sub-globose, striated near the suture, brown, banded with white and fulvous; outer lip above slightly emarginate; umbilicus large, open; pillar termination nearly obsolete.

Martini 5. *pl.* 187. *fig.* 1872 & 3. *fig.* 1874 & 5? *pl.* 188. *fig.* 1896, 8 & 9. *Seba, pl.* 38. *fig.* 66. *pl.* 41. *fig.* 14, 15.

The Shells of this genus are composed of such of the Linnæan *Nerits* as are umbilicated, from which latter they essentially differ, both in the organization of the animal and the construction of the shell, which is either closed by a shelly or horny operculum.

The species are numerous, and are found both in temperate and tropical seas; two or three inhabit our own coasts, but by far the greater number are found in the Asiatic Ocean. They are subject to variation in their colour; and this, joined with a general resemblance in form, has rendered the discrimination of the species very difficult. I have, however, remarked, that the various modifications of the umbilicus, and the termination of the pillar (which is indicated in many species by an elevated ridge or rib within the umbilicus) is a certain and constant indication, presenting the same peculiarity through all the individuals of a species, even in the young state. This termination of the pillar has been mistaken for the inner lip, which, on the contrary, is always above the umbilicus, which, if closed, is not closed by the lip, but by the thickened termination of the pillar or columella.

The two most striking varieties are here figured of this species, which is sufficiently described in the specific character. I believe it is found both in the Mediterranean and Red Seas.

MEROPS Savignii,

Black-capped Bee-eater.

GENERIC CHARACTER.—See Pl. 8.

SPECIFIC CHARACTER.

M. viridis, subtus albescens, uropygio caudâque cæruleis; vertice, strigâ oculari, fasciâque latâ collari nigris; mento, superciliisque albis; rectricibus mediis elongatis.

Green; beneath whitish; rump and tail blue; crown of the head, eye stripe, and broad band across the neck, black; chin and eye-brows white; two middle tail feathers lengthened.

THIS Bird was pointed out to me by Professor Temminck as described by Le Vaillant in his work on this family, under the name here given; on this authority, therefore, I have been obliged to rest, for I have in vain turned over the catalogues of all the public libraries in the metropolis, in the hope of seeing the work, and ascertaining the fact. The book is modern, and, though expensive, one of standard excellence; but a princely fortune is necessary to purchase such a library as a student should have access to.

Total length eight inches and a half; size rather less than the common bee-eater; the crown in young birds is greenish, in some a dull brown, and in others deep black, margined in the front and sides of the head with a line of white; the ears black, uniting to a broad band across the neck of the same colour, which is margined on the lower part with beautiful sea blue; the nape of the neck, inner covers, and quill feathers, greenish fawn colour; the lesser quills tipt with black; the rump, tail, and outside of the quills next the body changeable greenish blue; the back and upper covers green beneath; the chin is white; the body tinged with greenish, and the under tail covers with blue: the tail three inches long, and in such specimens as have the two middle feathers lengthened, three and a half; bill and feet black.

Inhabits Sierra Leone, and other parts of Africa.

Pl. 76.

CERMIC CHALLENGER.—SEE P. 8.

Black-capped Bee-eater.

MEROPS SERVILLII.

BOTIS,
Gauze-wing.

GENERIC CHARACTER.

Antennæ setaceæ. Alæ trigonæ, insecto sedente, cum corpore triangulum subhorizontale efficientes, superiores margine externo recto. Palpi quatuor exserti. Lingua conspicua. Latreille, *Gen. Ins.* 4. p. 229.

Typus Genericus *Ph. Urticata* Lin. &c.

Antennæ setaceous. Wings trigonal, forming a nearly horizontal angle with the body when the insect is at rest. The outer margin of the anterior wings straight. Palpi four, exserted. Tongue conspicuous.

Generic Type *Ph. Urticata* Lin. &c.

Botys. *Latreille.*

BOTIS marginata,
Pink-margined Gauze-wing.

B. alis hyalinis, stramineis, apicibus margineque flexuoso rubro-purpureis.

Wings hyaline; pale fulvous; the margins and tips with a waved reddish purple border.

P. Marginata. *Cramer, pl.* 400. I. — P. Simiata. *Fab. Ent. Sys.* 3. 208.

THERE appears no end to the immense number of species referrible to this genus, which will perhaps be found the most extensive tropical group of all the Linnæan *Phalænidæ*. Of these, near eighty species I found in Brazil; Dr. Horsfield has brought a great many from Java; near fifty are found in North America, and I have little doubt that the whole number existing in the cabinets which I have inspected may amount to about three hundred and fifty. The thorough investigation of these is a work of no ordinary labour; and, until this is done, it appears most advisable to let the generic distinction remain, as given by Latreille, though there can be no doubt that among them distinct groups will be detected.

Cramer's figure will not indicate even the genus, and Fabricius describes the body as white; the tip ferruginous; in this it is yellow, tipped with red.

Mr. Haworth obliged me with this insect, which Fabricius notes as African.

BOTIS bicolor,
Black and White Gauze-wing.

B. alis anticis fuscis, punctis duabus angulatis transversis albis; posticis ad basin albis.

Anterior wings, brown, with two transverse angulated white spots; posterior white at the base.

FROM the same collection as the preceding; the margin of the thorax and body are white. I apprehend it is an American species, which is distinct from any figured by Cramer, the principal author on the Exotic Lepidoptera.

PICUS affinis,

Golden-naped Woodpecker.

GENERIC CHARACTER.—See Pl. 14.

SPECIFIC CHARACTER.

P. supra aureo-fuscus, subtus pallidus, fasciis nigris transversis ornatus; capite (in maribus) rubro; nuchâ colloque supra aureis; tectricibus secundis fulvo maculatis; caudâ nigrâ, fasciis fulvis ornatâ.

Above, orange brown; beneath, pale, with transverse black stripes; head (in the male) red; nape and neck, above, golden yellow; lesser wing covers with yellowish spots; tail black, with yellowish bands.

ORNITHOLOGISTS have either entirely overlooked this bird, or have slightly noticed it as a variety of *Picus icterocephalus*, the golden-headed Woodpecker, from which it is nevertheless quite distinct.

Total length near seven inches; bill blackish horn colour, and one inch long from the gape; the feathers on the upper part of the head are short and pointed; the tips bright red; the base black; on the hind head they are longer, and change to a bright golden yellow, which spreads round the nape; the ear feathers and front of the head are greyish brown, striped down the middle with whitish, and in some there is an appearance of a whitish line over the eye, joining the nape. The upper parts of the body and wings are of a rich golden brown, with indistinct brighter spots; the lesser wing covers have a whitish spot at the top of each, forming two bands; quills on the inner shaft black, with white spots. Under plumage grey, tinged on the breast with rufous, and banded with brownish black; tail short, black, with interrupted transverse bands of obscure olive.

The female has the head blackish, the feathers tipt with dull white; the ears darker; the plumage above more olive, the spots brighter, and the bands on the body grey, paler, and more indistinct than in the male. The feet in both sexes are greenish, and the wings three inches and a half long.

It inhabits Brasil, but is not common; I found it both in the Province of Bahia, and that of Rio de Janeiro.

NATICA mustelina,

Belted Natica — upper figures.

GENERIC CHARACTER.—See Pl. 75.

SPECIFIC CHARACTER.

N. testâ subglobosâ, mustelinâ concolore, obsoletè rugatâ, fasciâ levatâ basin cingente; spirâ depressâ, apice acuto; umbilico magno, aperto; columellæ basi gracili, levatâ.

Shell sub-globose, uniform, fulvous-brown, obsoletely wrinkled, base with an elevated belt; spire depressed, the tip acute; umbilicus large, open; pillar termination slender, elevated, and central.

THE elevated belt at the base affords an excellent distinction to this species. The specimen in my cabinet is the only one I have seen. Locality unknown.

NATICA sordida,

Brown Natica — middle figures.

N. testâ subglobosâ, fuscâ, spirâ prominente; aperturâ intus fusco-purpureâ; umbilico parvo, labio interiore paululùm tecto; columellâ obsoletè terminante.

Shell sub-globose, brown; spire prominent; aperture within purplish brown; umbilicus small, partially covered by the inner lip; pillar termination obsolete.

THIS Shell is both undescribed and apparently unfigured; the spire is more elevated than usual; the umbilicus small; and the termination of the pillar not seen: it is not uncommon, and is often much larger than here represented, but I am unacquainted with its locality. The little decision in the figures given by authors of these shells, renders it hazardous to quote them with certainty.

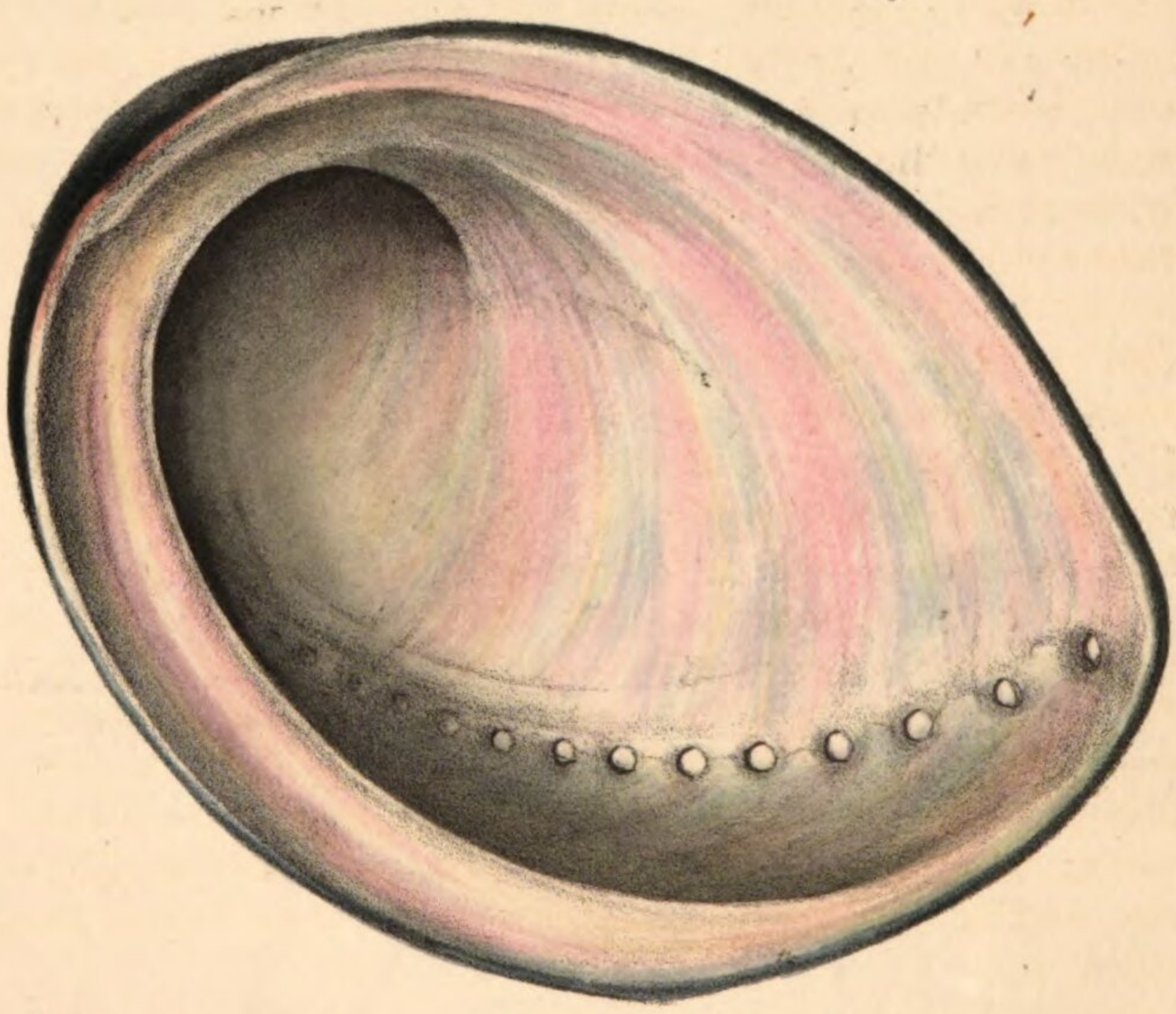
NATICA melastoma,

Black-mouthed Natica — lower figures.

N. testâ depressâ, fuscâ; spirâ complanatâ minimâ; ore intus atro-purpureo; umbilico magno, clauso labio interiore rufo.

Shell depressed, brown; spire flattened, very small; mouth within purplish black; umbilicus large, closed up by the inner lip, which is rufous.

IN colour this bears a close resemblance to the last, but the shell is flattened beneath, and the spire very short and depressed; the umbilicus large, but, in general, quite closed up by the thickness of the pillar, united to the inner lip. In some specimens a narrow crescent-shaped groove is left on the outside margin. Its habitat is unknown.



HALIOTIS Californiensis,

Small-holed Californian Ear-shell.

Generic Character.

Testa univalvis, depressissima, lata, auriformis. Discus admodum perforatus. Spira minuta, depressa. Apertura testam magnitudine penè æquans, intus margaritifera.

Typus Genericus *H. Tuberculata* Linn. &c.

Shell univalve, greatly depressed, broad, ear-shaped, the disk with many perforations. Spire minute, depressed. Aperture nearly as large as the shell; inside pearly.

Generic Type *H. Tuberculata* Linn. &c.

Specific Character.

H. Testâ ovali, lævi, obscurè thalassinâ; labio exteriore supra immarginato, interiore lato, complanato, foraminibus numerosis, minutis, orbicularibus, lævibus.

Shell ovate, smooth, obscure sea green; outer lip above immarginate; inner lip broad, flat; perforations numerous, very small, orbicular and smooth.

The Ear-shells are strangely characterized by their peculiarity of form, perforated holes, and rich pearly interior. They are found in both temperate and tropical seas; but the definitions hitherto given by conchologists are so imperfect, that they have left our knowledge of these shells nearly the same now, as in the time of Linnæus. Seventeen species only are enumerated in Mr. Dillwyn's work; although thirty-four have fallen within my own observation the last few months.

The difference between this and the common black Californian Ear, consists in its being a much deeper and smoother shell, always narrowest at the base, the outer lip not having (as in that) a prominent curve or gibbosity where it joins the spire; but principally in the perforations, which in this are always half as large, and doubly numerous; it is also generally a much smaller, and less common species: the spire is always deeply tinged with pink. The genus *Padollus*, of Montford, resting entirely in the unevenness of the outer lip, without any knowledge of the animal, appears to me an unnecessary distinction, for such is the character of all young shells, and also of mature ones, whose outer surface is rugged or uneven.

Pl. 80.

SPHINX Ello.

Generic Character.

Antennæ prismaticæ, in utroque sexu ad medium leviter crassescentes, externè breviter piloso-biciliatæ, mucrone arcuato, producto, sensim terminantes. Palpi breves, obtusi. Lingua elongata, convoluta, distincta, et in pupâ aliquando porrecta. Alæ sub-integræ. Abdomen elongatum, conicum, ano acuto, imberbi.

Typus Genericus *Sphinx Convolvuli* Linn.

Antennæ three sided, in both sexes slightly thickened in the middle, externally ciliated with double tufts of short hairs, and ending in a gradually lengthened arcuated hook. Palpi short, obtuse. Tongue long, convolute, distinct, sometimes porrected in the pupa state. Wings nearly entire. Abdomen lengthened, conic; the tip pointed, and not bearded.

Generic Type *Sphinx Convolvuli* Linn.

Specific Character.

S. alis subdentatis, cinereis (in maribus lineis fuscis variatis); posticis rufis, margine nigro; abdomine pallido, cingulis atris circumdato.

Wings slightly dentated, cinereous (in the male variegated with brown lines); posterior rufous, with a black margin; abdomen pale, with black belts.

Gmelin 5. 2375. 13. *Fab. Ent. Sys.* 3. 362. *no.* 21. S. Ello. *Drury*, vol. i. p. 59. *pl.* 27. *fig.* 3. (*male.*) *Cramer, pl.* 301. D.

It is in all things better to understand few subjects well than many imperfectly; knowledge may be extensive, but it cannot be sound, if it is at the same time imperfect; and, applying this observation to the present article, it becomes as desirable, where necessary, to illustrate an insect known to Linnæus, as to regard only the accession of new species.

The two insects figured were received from Jamaica by my friend Dr. Leach, and there can be no doubt they are the sexes of one species. The upper is a male, and agrees with Drury's figure and description; the lower insect is a female, of which no representation has been published: as for Cramer's figure, if intended for the former, it is really so bad that it can hardly be quoted as an authority, and it appears to have misled Fabricius, in thinking that the female insect had a brown stripe on the anterior wings, whereas that character is more applicable to the male.

The insects I propose retaining under this genus are such as have the body lengthened, pointed, and not bearded at the tip; the antennæ but slightly thickened in the middle, and the terminating hook gradual, arched, and not very acute: these comprehend the first section of Latreille's genus, *Sphinx*, and are by him again divided into two groups, the one having the wings entire, the other angulated.

TROCHILUS niger,
Black Humming Bird.

GENERIC CHARACTER.

Rostrum elongatum, rectum vel arcuatum, flexile, gracillimum, ad basin depressum, mandibulâ superiore inferiorem amplectente et tantùm non obtegente. Lingua jaculatoria, bifida, tubulata. Nares basales, membranâ tectæ, aperturâ in longum fissâ. Pedes sedentes, minimi. Alæ longissimæ, subarcuatæ, remigibus prioribus longissimis, cæteris gradatim brevioribus.

Typus Genericus *T. Moschitus* Linn.

Bill long, straight or curved, flexible, very slender, the base depressed, the upper mandible folding over, and almost covering the lower. Tongue long, extensible, bifid, and tubular. Nostrils basal, covered by a membrane, and opening by a long slit. Feet sitting, very small. Wings very long, curved, the outer quill longest, the rest gradually becoming shorter.

Generic Type *Ruby-crested Humming Bird* Lath.

SPECIFIC CHARACTER.

T. niger; auribus aliquando rufis; tectricibus, caudâ uropygioque colore subviridi nitidis; rectricium lateralium nivearum apicibus colore chalybeio tinctis.

Black; the ears sometimes rufous; wing covers tail and rump glossed with green; lateral tail feathers snowy, tipt with steel blue.

LIKE the resplendent jewels of the earth, the Humming Birds are the living gems of the air. United to the most delicate form, these fairies of creation have the dazzling effulgence of every tint that sparkles from the ruby, the topaz, the sapphire, and the emerald, lavished on their plumage; they seem created but for our admiration, to sport in the ardent beams of a tropical sun, and to feast on the nectar of the sweetest blossoms; and, like sparks of many coloured fire, they shoot from flower to flower, exulting in their little life of brightness and pleasure.

To return, however, to that now before us, it should be observed, that it is the only species whose plumage does not in any way accord with that of the rest of its brethren. No author appears to have described it, although I met with it very frequently in Brazil: a specimen in the British Museum has the ears reddish brown, but this seldom occurs. The figure is of the size of life. All the species are natives of tropical America.

Pl. 82.

TROCHILUS falcatus,

Sickle-winged Humming Bird.

GENERIC CHARACTER.—See Pl. 82.

SPECIFIC CHARACTER.

T. viridis, guld pectoreque nitidè cæruleis; corpore anoque cæruleo-viridibus; rectricibus paribus, rufo-cinnamominis; remigibus exterioribus falcatis, scapis dilatat o-compressis.

Green; throat and breast shining blue; body and vent blue green; tail even, rufous cinnamon; exterior quills falcated, the shafts dilated and compressed.

NOTHING can exceed the dazzling brilliancy of colours united in this little creature. It is, however, more remarkable from the extraordinary construction of its wings, the outer quills of which are greatly curved, and the shafts dilated to a most disproportionate size; a similar structure occurs also in the Broad-shafted H. B. of Dr. Shaw, (*T. latipennis.*) That it is intended to fulfil some important office in their economy, will admit of no doubt, for in wisdom are all things made; conjecture must, however, in numberless instances, supply our want of real knowledge; and it may not be improbable that such additional strength in the wings has been given them as a defence against the small birds of prey, (*Lanii.* Lin.) which abound in tropical countries.

The figure is the size of life; bill curved from the base, with a black stripe between that and the eye; plumage above deep shining green, most brilliant on the sides of the neck; ear feathers blue green; chin and throat of a most brilliant deep violet blue, changing in some lights to purple, becoming greenish on the breast, and blended with the green of the neck; all these feathers are disposed like scales; vent golden green, with two tufts of downy white feathers round the thighs. Tail even, the feathers broad and truncately rounded, of a rufous cinnamon colour, tipt with a purple black bar; the middle feathers darkest, and glossed with green.

Of this rare and unrecorded species, a fine example existed in Mr. Bullock's Museum, which was purchased to enrich that of Paris: another, more imperfect, was sent Mr. Falkner from the Spanish Main. The male of *T. latipennis* is undescribed, Dr. Shaw having only seen the female; both sexes, however, are in my possession. The plant introduced in the plate (*Clitoria Plumieri*) is a native of Brazil.

ACHATINA emarginata,
Notched Achatina.

GENERIC CHARACTER.—See Pl. 30.

SPECIFIC CHARACTER.

A. (div. 2.) testâ productâ, sub-flavâ, fasciis viridibus flavisque ornatâ; aperturâ ovato-rotundatâ, albâ; labio exteriore medio inciso; basi emarginatâ.

Ach. (div. 2.) Shell elongated, cream colour, with green and yellow bands; aperture ovately rounded, white; outer lip notched in the middle; base emarginate.

A NEW and very delicate species, which may have been overlooked as a variety of *A. virginea*, from which it differs in the comparative length of the basal whorl, which in that is remarkably short, in being a much more elongated shell, in the mouth being oval, but above all, in having a conspicuous notch in the middle of the outer lip, where the green band commences; the aperture (excepting the inner lip) is pure white. It is in Mr. Dubois' possession, and its country unknown.

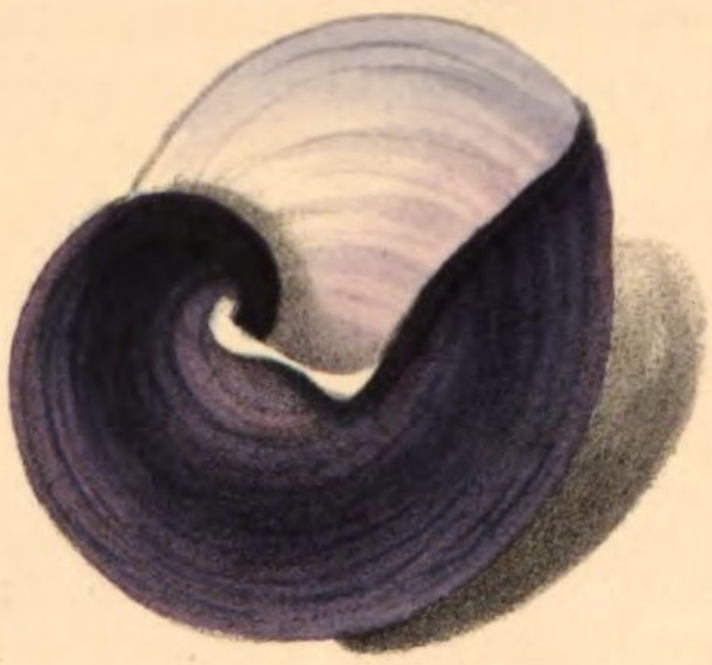
ACHATINA vittata,
Ribbon Achatina — middle figures.

A. (div. 2.) testâ ovato-oblongâ, crassâ, albente, vittis nigris fuscisque angustis ornatâ; aperturâ ovatâ, sub-contractâ; columellâ tantùm non rectâ; basi subtruncatâ.

A. (div. 2.) Shell ovate-elongated, thickened, fulvous white, with narrow black and brown bands; aperture oval, slightly contracted; pillar nearly straight; base sub-truncated.

Gualtieri, tab. 6. *fig.* A.

ALTHOUGH unnamed, this shell is obviously the same as that figured by Gualtieri, who also describes it very tolerably. This figure, however, is quoted by Gmelin and others for *A. virginea;* from which shell it is quite distinct: it is a thickly formed shell, the base slightly truncated, and the aperture very narrow, and reddish brown; the outer lip within is thickened. From the same collection as the last.



IANTHINA fragilis,

Common Oceanic Snail—upper and lower figures.

Generic Character.

Testa subglobosa, tenuis, fragilis. Spira depressa. Labium exterius medio emarginatum. Columella ultra aperturæ basin producta. Animal marinum, vesiculâ solidâ pede suppositâ instructum.—Cuvier.

Shell subglobose, thin, brittle. Spire depressed. Outer lip notched in the middle. Base of the pillar projecting beyond the aperture. Animal marine, with a solid vesicle, placed under the foot.—*Cuvier.*

Specific Character.

I. testâ pallidâ, anfractu basali angulato ; basi complanatâ, striatâ, violaceâ ; aperturâ latiore quam longiore ; labio exteriore profundè emarginato.

Shell pale; body whirl angulated; the base flattened, striated and deep violet; aperture broader than long; outer lip deeply emarginate.

Helix Ianthina. *Gm.* 3645. *Lister.* 572. *fig.* 23. 24. *Turton.* C. D. *p.* 58. *Gualt. tab.* 64. 0. *Mart.* v. *t.* 166. *fig.* 1577.—8?

Ianthina fragilis. *Bruguiere. Ency. Meth. pl.* 456. *fig.* 1. *a. b.*

The singular shells of this genus float on the surface of the ocean, where they principally live. Gmelin remarks that the animal emits a phosphoric light; and Captain Cook observed that it is oviparous, and discharged, on being touched, a liquor of the most beautiful purple. Dr. Turton and Mr. Dillwyn have recorded several British localities for this shell; and the former notes having seen it alive, but without giving any original account of the animal. The extreme brittleness of the shell is such, that, although common, it is very rarely seen so perfect as here represented, from shells in my own cabinet. All the figures I have seen are very defective.

IANTHINA globosa.

Globular Oceanic Snail—middle figures.

I. testâ ventricosâ, basi productâ ; aperturâ longiore quam latiore ; labio exteriore leviter emarginato.

Shell ventricose, the base lengthened; aperture longer than broad; outer lip slightly emarginate.

The notch, which in *I. fragilis* extends the whole length of the lip, in this, is very slight, and nearly central. Mr. Dubois has enabled me to figure it from specimens in the greatest perfection; it is much less common than the last.

CONUS Princeps,

Prince Cone.

GENERIC CHARACTER.—See Pl. 65.

SPECIFIC CHARACTER.

C. conicus, coronatus, roseus; lineis fusco-purpureis longitudinalibus subramosis; spirâ convexâ.—Lamarck.

Coronated Cone, rosy, with brownish purple longitudinal lines, which are sometimes branched; spire convex.—*Lamarck.*

Conus Princeps. *Gmelin.* 3378. (omitting var. β and γ.) *Turton.* 4. 313. (omitting var. 2. and 3.)

Conus regius. *Martini,* vol. x. *pl.* 138. *fig.* 1276. *Brug. no.* 12. *Ency. Meth. pl.* 318. *fig.* 3. *Lamarck, Ann. du Mus.* p. 31. *no.* 10.

THE Cones are remarkable both for their beauty and the very high value attached to many of the varieties. They are likewise a very numerous family, and, with three or four exceptions, are all inhabitants of tropical latitudes, particularly the Indian Ocean. Bruguière and Lamarck have each written very able descriptions of the species, of which the latter enumerates 179 recent, and 9 found only in a fossil state.

This is a shell of great rarity and beauty. Dead and injured specimens are often seen, in which the deep reddish brown colour is bleached to a pale rose, and the base worn round. Of the live shell I have never seen more than two or three; and the finest of these is here figured from Mr. Dubois' cabinet: it is a native of the Asiatic Ocean.

I see no reason why the original name of Linnæus for this shell should have been changed, although, under it, he has evidently included other species quite distinct; (his var. β. being *C. ebræus*): indeed, it too often happens, that in making those alterations absolutely necessary in the present state of the science, the spirit of innovation oversteps the justice due to those, whose labours first laid the foundation of our own knowledge.

SPHINX Labruscæ,
Wild Vine Hawk-moth.

GENERIC CHARACTER.—See Pl. 81.

SPECIFIC CHARACTER.

S. alis integris; anticis virescentibus, fasciâ triangulari centrali maculoque fusco ornatis; posticis medio cæruleo-nigris, margine fulvo; abdominis lateribus punctis quinque niveis.

S. Wings entire; anterior greenish, with a central triangular band and black spot; posterior bluish black in the middle, the margin fulvous; sides of the body with five snowy spots.

S. Labruscæ. *Gmelin*, p. 2380. 14. *Fab. Ent. Sys.* 3. p. 377. *Cramer, pl.* 184. *a.*

LINNÆUS has well observed, that the great distinctions of his three genera of Lepidoptera, were, that Butterflies are seen on the wing only during the day; Hawk-moths, or Sphinxes, at the rising and setting of the sun; and Moths during the night. The insects of Europe, indeed, offer but few exceptions to these characters; but the habits of certain exotic tribes, in each of these families, partake both of one and the other in a remarkable manner. Thus, among the butterflies, there is a genus in South America (hitherto unnoticed), which fly only during the dusk of evening: a number of the Linnæan Hawk-moths prefer the meridian heat of the sun; and there are not wanting several moths which are only seen during the same period of the day.

The insect, however, before us, is of that tribe to which the remark of Linnæus is strictly applicable; and, although included in the *Systema Naturæ*, has remained without any correct representation, for it would be difficult to delineate a worse figure of it than that given by Cramer. Besides the row of five snowy white spots on each side of the body, there are four pair of others, more dusky, down the middle, and five small black dots near the outer margin of the fore wings; the colour of all beneath is a buff yellow, with two faint dusky oblique bars, and the middle of the fore wings sea green.

I have received this species from Jamaica; in its larva state it appears to feed on the wild vine.

MITRA caffra,

Brown white-banded Mitre. — middle figures.

GENERIC CHARACTER. — See Pl. 23.

SPECIFIC CHARACTER.

M. (div. 1.) fusiformis, rufo-fuscata, albo fasciata, lævis, spirâ plicato-striatâ, basi rugosâ, columellâ quadriplicatâ.—Lamarck.

Shell fusiform, reddish brown, with whitish bands; smooth; spire plaited and striated; base rugose; pillar 4 plaited.

Voluta caffra. *Gmelin.* 3451. *Martini* 4. *tab.* 148. *f.* 1370.? *Dill. p.* 545.

Mitra caffra. *Lamarck. Ann. du Mus.* vol. vii. p. 208. *no.* 30.

IT is not improbable that *Mitra bifasciata, (Zool. Ill. pl.* 35.) may eventually be considered only a variety of the shell here figured, which accords much closer with the characters given of the Linnæan *M. caffra,* than any other; the two shells, however, at the first glance, have a widely different appearance; yet not more so, than the smooth and plaited varieties of *Strombus vittatus Lin.* I have therefore retained the character given by Lamarck, as the best method to be followed in doubtful cases. In this shell, the plaits commence halfway round the body whirl; they are obtuse, crowded, and not angulated near the suture; the striæ between are fine and decidedly marked; the base half of the shell strongly grooved; the suture rather compressed; the channel short and not recurved, and the aperture striated.

MITRA crassa,

Thick Mitre — upper and lower figures.

M. (div. 3.) testâ lævi, mediâ crassâ, fuscâ, fasciâ angustâ sub-albâ ornatâ; spirâ striatâ, striis intus punctatis; labio exteriore dentato; columellâ 5 plicatâ.

Shell smooth, thick in the middle, brown, with a narrow whitish band; spire striated, the striæ with internal punctures: outer lip crenated; pillar 5 plaited.

A SPECIES evidently unknown to Lamarck; the upper margin of each whorl is thick and projecting; the striæ on the body whorl are nearly obsolete, but on the spire become deep, remote, and having internally minute hollow dots; the inner margin of the exterior lip is strongly crenated, the aperture smooth, and the pillar with five strong teeth. I believe it was brought from the South Seas.

PSITTACUS murinus,
Grey-breasted Parakeet.

GENERIC CHARACTER.—See Pl. 1.

SPECIFIC CHARACTER.

P. *viridis, genis, auribus, gulâque cinereis; vertice, remigibus rectriciumque marginibus sub-cæruleis.*

Green; sides of the head, ears, and throat, grey; crown, quills, and end of the tail, bluish.

P. murinus. *Gmelin.* 1. 327. *no.* 80. *Lath. Ind. Orn.* 1. p. 101.

Grey-breasted Parrakeet. *Lath. Syn.* vol. 1. 247. *Gen. Zool.* vol. viii. p. 456.

THOSE of our readers who visited Leamington during the last season, may have observed this noisy little creature uttering its discordant cries at the door of a small house near the pump-room. I borrowed it for a day from the good woman to whom it belonged, and thus made the drawing and description with the bird before me.

Dr. Latham observes on this species, that excepting where the grey colour pervades, "the rest of the body is olive green, excepting the quills, which are deep green;"—this may be the female. He adds a quotation from Pernetty, who describes a bird from Monte Video, something near this; but which, from having a very long tail, a flesh-coloured bill, &c. may probably be distinct.

The live bird could not be conveniently measured, but it is rather larger than the red-shouldered Parrakeet, (figured at pl. 62.) The skin round the eye white, and the irides hazel; the whole upper part of the plumage is a beautiful grass green, changing according to the light into different shades; the top of the head, the quill feathers, and end of the tail, greenish blue, in some lights appearing quite blue; the sides of the head, ears, and throat, as far as the breast, bluish grey; all the remaining under plumage yellowish green, with a shade of orange in the middle of the body and vent; bill and legs dark grey; this latter colour is so unusual in this tribe, that I at first thought it indicated an imperfect plumage, but I have now seen it at two different seasons of the year without any variation whatever. It is probably a South American species.

PTEROGLOSSUS inscriptus,
Lettered Aracari.

GENERIC CHARACTER.—See Pl. 44.

SPECIFIC CHARACTER.

P. fusco-viridis, capite gulâque nigris (feminæ castaneis ;) uropygio rubro ; abdomine flavo ; rostri fulvi culmine, basi et apice nigris ; marginibus dentatis, lineis nigris inscriptis.

Obscure green ; head and throat black, (in the female chesnut ;) rump crimson ; body yellow ; bill fulvous, the top, base, and tip, black ; the margins dentated, and marked with black lines resembling characters.

I WAS put in possession of this rare and unknown bird, by the dispersion of the most magnificent assemblage of natural productions that ever marked the zeal of an individual, or ornamented the capital of this kingdom. Mr. Bullock's Museum is now scattered ; yet the objects it comprised were deemed worthy of enriching the public repositories of every nation in Europe ; who sent their learned men to purchase with avidity, and share in the spoils of a Museum, the dispersion of which will be long regretted by the learned, the inquiring, and " the many."

Total length, twelve inches and a half ; bill, from the angle of the mouth to the tip, two inches three tenths long, and eight tenths across the base ; the colour (which appears little changed from that in the live state) is deep straw, or buff yellow ; the top of the upper mandible and tips of both are black ; parallel with the marginal base of the upper, is a black line, which is very broad on that of the lower ; the edges of both are serrated, and marked by short black lines, somewhat resembling oriental characters ; at the base of the bill there is an elevated rim of deeper yellow ; the ears, chin, and throat are deep chesnut, margined in front with a narrow line of black, (which parts in the male are entirely black ;) the crown of the head and neck above also black, changing to a dark bluish green on the wings, back, and tail ; the rump crimson, and the greater quills blackish ; from the breast to the vent straw-coloured yellow, with a greenish cast ; the thighs and flanks olive ; tail wedged, near five inches long ; the orbits appear to have been black, and the feet green.

Mr. Bullock informed me he had the two sexes of this bird sent him from the interior of Guyana.

LICINIA Amphione.

GENERIC CHARACTER.—See Pl. 15.

SPECIFIC CHARACTER.

L. alis integris, suprà nigris; anticarum basi maculo aurantiaco, triradiato, medio fasciâ flavâ, apice maculo flavo ornatis; posticis strigâ aurantiacâ, margine ferrugineo; antennarum clavis albis.

Wings entire, above black; anterior with a three rayed orange spot at the base, and a central bend and terminal spot of yellow; posterior with an orange stripe and brownish margin; club of the antennæ white.

Papilio Amphione. *Cramer, pl.* 232. *f.* EF.
Pieris Amphione. *Godart in Ency. Meth.* vol. 9. p. 165. (Female.)

THIS is the only species among those I have united under the genus *Licinia,* which has any shade of red mixed in the colouring, all the others being variegated only with white, yellow, and black. It is a native of Brazil, and Godart mentions of Guyana and the Antilles: though not common, it is sometimes frequent in local situations, preferring the borders of deep forests, and flying very slowly. I had the means of fully ascertaining the two sexes, of which the two upper figures are of the male, and the lower one the female. There can be no doubt the latter is the *Pieris Amphione,* so admirably described by M. Godart, who, however, makes no mention of the black marginal spots on the under side of the posterior wings, represented in Cramer's figure, which may therefore be a variety. More difficulty, however, exists in ascertaining if the male is distinct from *P. Laia,* of Godart: the figures of Cramer, in general, are so inaccurate, as always to excite a doubt in cases of nice discrimination; Godart's description, nevertheless, perfectly agrees with Cramer's figure: if it was, therefore, drawn up from the insect itself, there can be little doubt that *Laia* is distinct from *Amphione;* if, on the other hand, M. Godart made his description only from Cramer's figure, the question remains in its original uncertainty.

The club of the antennæ is white, tipt with pale brown. The under side of the female very closely resembles the upper, excepting that the black stripe on the lower wings is broken;

and there are irregular blotches of white at the tips of both wings, but no marginal spots, as represented by Cramer.

It will be found that *Licinia* is the connecting genus between those of *Danais* and *Pieris*, of Latreille, and that the transition between the last of these and *Colias* is strongly marked by that of Terias, (*Zool. Ill. pl.* 22).

What with the inaccuracy of figures, and the almost universal neglect with which the most eminent entomologists have passed over this beautiful order, the natural arrangement and affinities of the *Lepidoptera* still remain in the greatest obscurity; and it is recommended to those who may object to the additional generic distinctions I have made, to examine, in the first instance, the relative validity they bear in essential character to the innumerable genera that are continually created in the *Coleoptera, Hymenoptera,* and *Diptera*.

PAPILIO,

Butterfly.

Generic Character.

Antennæ gracilcs, clavis elongatis, obtusis, sub-arcuatis, rarò compressis. Palpi brevissimi, reflexi, remoti, linguæ basin vix obtegentes, articulo ultimo obtuso, minimo. Pedes antici longi, articulo secundo infrà gibbo.

Sectiones.

I. Græci.

Pectore maculis sanguineis carente.

a. Ecaudati, *alis inferioribus elongatis, basi angustâ.*

b. Percaudati, *alis fasciis fulvis vel viridibus ornatis, inferioribus caudi, elongatis, angustis, instructis.*

c. Caudati, *alis inferioribus caudis obtusis, patulis, instructis.*

* *Alis fulvo fasciatis.*

* * *Alis nigricantibus.*

d. Dentati, *alis inferioribus dentatis.*

e. Orbiculares, *alis inferioribus brevibus, orbicularibus.*

II. Trojani.

Pectore maculis sanguineis insigni.

a. Ecaudati, *alis inferioribus elongatis, basi latâ.*

b. Caudati, *alis inferioribus caudis obtusis, patulis, instructis.*

c. Dentatis, *alis inferioribus dentatis.*

d. Orbiculares, *alis inferioribus brevibus, orbicularibus.*

Generic Character.

Antennæ slender, the club elongated, obtuse, slightly arched, and rarely compressed. Feelers very short, reflected, remote, hardly covering the base of the tongue, the last joint obtuse and minute; anterior feet long, with a gibbous appendage on the under part of the second joint.

SECTIONS.

I. *Greeks.*

Breast without sanguineous spots.

a. Tailless; lower wings elongated, and narrow at the base.

P. Sarpedon. Nereus C. *Macleayanus* G.

b. Long tailed; wings generally banded with yellow or green.

P. Codrus. Sinon. Antheus. Podalirius. Machaon, &c.

c. Tailed; lower wings with obtuse patulous tails.

* Wings varied with yellow bands.

P. Torquatus. Thoas. C. *Ilioneus* (Donovan) *&c.*

** Wings generally dark, without bands.

P. Troilus. Paris. Severus. Pammon, &c.

d. Dentated; lower wings dentated, without tails.

P. Ægeus et Erechtheus. Don. *Amphitryon. Drusius. Demolius* C.

e. Orbicular; lower wings short, orbicular.

P. dissimilis. Similis C. *Assimilis* (Drury). *Polydamas?* Lin.

II. *Trojans.*

Breast with sanguineous spots.

a. Tailless; lower wings elongated and broad at the base.

P. Memnon. Polymnestor. Agenor. Hector. C.

b. Tailed; lower wings with obtuse patulous tails.

P. Polydorus. Romulus. Coon, &c.

c. Dentated; lower wings dentated.

P. Evander. (Godart.) *Amosus?* C.

d. Orbicular; lower wings short, orbicular.

P. Priamus. Panthous. Amphrisius, Harmonia et Cressida (Donovan.)

FROM the earliest ages, the Butterfly appears to have attracted the admiration of mankind; and we find it celebrated by their poets as figurative of gaiety and pleasure, and by their sages as an emblem of the human soul. It has been interwoven in one of their most beautiful allegories, and has

been consecrated in our own days by several poets, though by none with such exquisite taste and moral feeling, as by the venerable Historian of the Medicii.

So few of those insects, generally called Butterflies, were known to Linnæus, that he included them all in one genus, dividing them, for the most part, into natural groups. Fabricius continued this arrangement, with little variation, and has left us the description of near 1,150 species! Yet before his death, this laborious naturalist saw the absolute necessity of dividing this immense genus into many others, and left among his MSS. a sketch of his proposed arrangement, published afterwards by Illiger, and partially adopted (we venture to think also very imperfectly) by M. Latreille.

The insects which are therefore now left under the old genus *Papilio*, are principally found out of Europe, and are remarkable for their richness of colouring and immense size. M. M. Latreille and Godart have described, with great precision, 146 species: it is, however, to be regretted, that they have adopted no sections or divisions to assist the student in his search after any particular species, among this extensive number. The great disadvantage of this is very obvious, and it has induced me to attempt something like a natural distribution of those insects, which, with every care to avoid an unnatural separation of kindred groups, I am fully aware, in some cases, is very artificial, and it is only offered until a greater knowledge of the larvæ, &c. will enable us to fix on more substantial characters than those I have adopted. This, however, will be a work of time; and until then, I think some guide to the ready knowledge of the species, however objectionable, is better than none.

Much might be said on the affinities which connect this with several other genera. Among the most striking is that existing between them and the *Noctuæ* (*N. Patroclus* Fab.) by means of *Pap. Leilus* Lin. which thus stands between the night and the day-flying Lepidopteræ. Many of the insects placed in our division of *Græci caudati*, are allied to *Danais* Lat. by the larva of both having retractile hornshaped processes, and the two genera seem still further connected by *Papilio similis* and *dissimilis* in one group, and by *P. Priamus* in the other; while the clear winged species from New Holland seem to indicate an affinity with the *Heliconiæ*.

The laborious and important investigations of M. Savigny into the structure of the mouth of these insects are too well known, to require a more particular notice in this slight sketch of the subject.

PAPILIO Polymetus.

Specific Character.

P. (*Trojani orbiculares*) *alis atris; superis fasciâ breviori* (*fœminæ albâ*) *anticè albâ, posticè cyaneâ, inferis dentatis, maculâ coccineâ quadripartitâ.*

Papilio (T. orb.) wings black, superior, with a short white band, which is blue at the base (in the female entirely white); inferior dentated, with a four cleft crimson spot.

Papilio Polymetus. *Godart in Ency. Meth.* vol. ix. p. 35. *no.* 28.

First described by M. Godart; unless, indeed, it may not hereafter prove a variety of *P. Lycander* (Cramer, Pl. 29. c. d.) which approaches as near to the male, as *P. Hippason* does to the female. The first sex is here represented at the upper and under figures; the middle is of the female, which M. Godart has not described. It is a native of Brazil; I found it at Bahia only in certain woods, and subsequently met with a variety in the province of Rio Janeiro, differing only in being much larger.

Pl. 92.

PAPILIO Pandrosus.

Specific Character.

P. (*G. Caud.*) *alis atris, fasciâ communi posticarumque lunulis marginalibus flavis; his caudatis, punctorum rubrorum striga intermediâ.* G.

Pap. (*G. Caud.*) wings black; with the common band and marginal lunules on the lower wings, yellow; lower wings with obtuse tails, and a row of red dots between the nerves.—*Godart.*

Pap. Pandrosus. *Godart. En. Meth. vol.* ix. *p.* 62. *No.* 101.

M. Godart has anticipated me in the first publication of this, and a great many other newly discovered Brazilian insects; it has, however, not been figured; and I take this opportunity of expressing my doubts, whether this and the next are not sexes of the same species, rather than two, permanently distinct. I have not, at this particular time, the means of referring either to my notes or my collections, by which the recollection I have on the subject might be in some way confirmed; and, until this is done, it is much better retaining the two insects as distinct species: the figures of both will show their very close resemblance, in every thing but the bands on the upper surface of the wings. I found them common in the province of Rio de Janeiro.

Pl. 93.

PAPILIO Torquatus.

Specific Character.

P. (*G. Caud.*) *alis atris; anticis fasciis duabus, posticis disco lunulisque marginalibus, flavis: his caudatis, punctorum rubrorum strigâ intermediâ.* — Godart.

P. (*G. Caud.*) Wings black; two bands on the anterior wings, and marginal lunules on the posterior, yellow; lower wings with obtuse tails, and a row of red dots between the nerves.

P. Torquatus. *Cramer, pl.* 177. *fig. a. b. Godart. En. Meth.* v. 9. *p.* 62.

It is singular that Fabricius appears to have overlooked this species, sufficiently well figured by Cramer to point out its leading characters, though very inferior to the beauty of the insect. M. Godart has, however, recorded it in his account of this superb genus in the *Encyclopédie Méthodique;* and the minute and clear descriptions which this able entomologist has given throughout that work, merit the highest eulogium. Our own figures will, however, render a detailed description in this place unnecessary.

M. Godart says, this insect is found both in Guiana and Brazil. In the latter country, I met with it only in the province of Rio de Janeiro, where it is common.

CINNYRIS chalybeia,
Lesser collared Creeper.

GENERIC CHARACTER.

Rostrum elongatum, gracillimum, arcuatum, apice acutissimo, integerrimo, ad basin depressum, lateribus compressis, marginibus inflexis, subtilissimè dentatis; mandibulâ inferiore convexâ. Lingua jaculatoria, tubularis, furcata? Nares basales, breves, nudæ, ovatæ, membranâ fissâ, juxta rostri marginem et basin aperiente, tectæ. Remigum penna prima brevissima, secunda pennis 4 proximis paribus brevior.

Ob.—*Maris cauda pennis elongatis 2 ornata, hypochondriorumque pennæ longiores.*

Typ. Gen. *Upupa Promerops* Lin.—*Certhia famosa* Lin.

Bill lengthened, very slender, arched, the base depressed, the sides compressed, the tip very sharp and entire, the margins bent inwards and minutely dentated; under mandible beneath convex. Tongue retractile, tubular, forked? Nostrils basal, short, and broad, covered by a naked oval membrane which opens by a slit near the margin of the bill. First quill feather very short; the second shorter than the four next, which are of equal length.

Ob.—Male generally with long feathers in the tail, and the side feathers under the wings rather lengthened.

Generic Types. *Cape Promerops, and Shining Creeper.* Lath.

SPECIFIC CHARACTER.

C. aureo-viridis, alis caudâque fuscis; fasciis pectoralibus 2 connexis, anticâ chalybeiâ, posticâ angustâ rubrâ; caudæ tegminibus superioribus chalybeis.

Golden green, with brown wings and tail, and narrow pectoral band, bordered above by another of steel blue; upper tail covers blue.

Certhia chalybeia. *Lin. Gmelin.* 475. *Ind. Orn.* 1. 284. *Brisson.* 3 *tab.* 32. *f.* 1.?

Le Soui-manga à collier. *Vieill. Grimp. p.* 40. *pl.* 13. 14.

Collared Creeper. *Latham, Syn.* 2. 709. *Gent. Zool.* 8. 196.

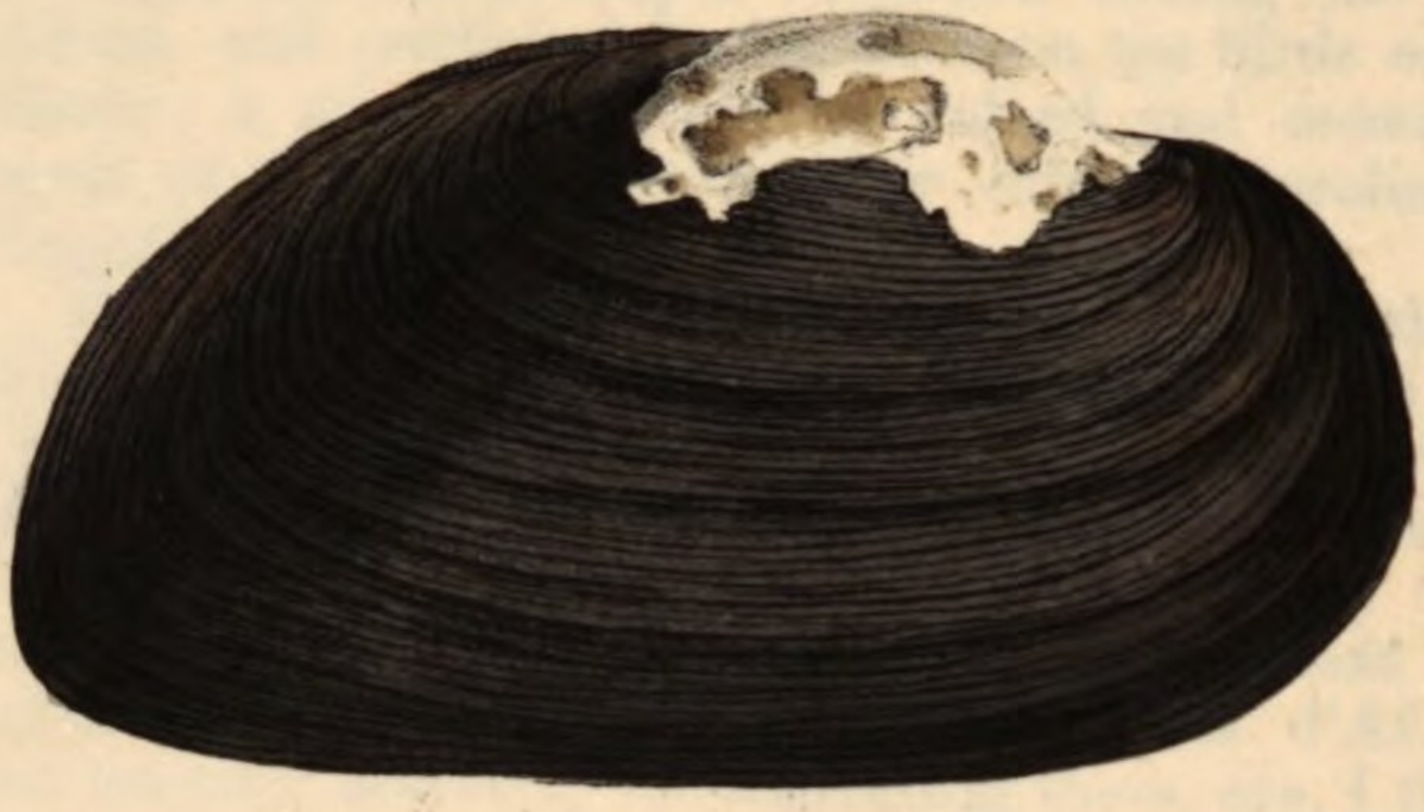
THIS splendid family may be considered as the Humming-birds of the old world, inhabiting (I think exclusively) the tropical regions of Africa and Asia. To the personal observations of M. Vaillant we owe the first, and indeed the

Pl. 95.

only detailed account, of their real economy, and which this enterprising ornithologist remarked during his travels in Africa, and published in his work on the birds of that continent; a work which will be valued and consulted when most of the systems framed by closet naturalists will be forgotten.

M. Vaillant records a singular fact respecting these birds: which is, that the males only assume their rich and vivid colours during the season of courtship; at other times they are scarcely to be known from the females, whose plumage in general is very plain. Another bird, very nearly resembling this, has been figured by M. Vaillant under the name of *Le Sucrier à Plastron rouge* (Ois. d'Af. pl. 300.); his reasons, however, for separating them, are, I think, sufficient, at least until more forcible ones are adduced than mere conjecture. Our figure is the size of life; on each side the breast is a tuft of yellow feathers; the back, neck, and head shining golden green, changing in various lights. The female is said to be the *Certhia Capensis* of Lin., which is greyish brown above, and paler beneath.

The different generic names which have been given to these birds by modern systematic writers, require some elucidation. They were originally placed by Linnæus among the *Certhiæ;* out of this genus Illiger formed another by the name of *Nectarinia*, in which he included not only these birds, but many others allied to them. From this genus of Illiger's, Cuvier separated a part under the generic appellation of *Cinnyris*, a genus which comprised those species of Illiger's *Nectarinia* only which are found in the parallels of latitude of the old world. So far these changes can be understood; but Professor Temminck, without noticing this previous arrangement, places the birds belonging to Cuvier's genus *Cinnyris*, under his own modification of Illiger's *Nectarinia*, while to the *Nectarinia*, as characterized by Cuvier, he gives the generic name of *Cæreba*. This last change has introduced great confusion; for the student must bear in mind, that Cuvier's genus *Nectarinia* corresponds to Temminck's *Cæreba;* that *Cinnyris* of Cuvier is *Nectarinia* of Temminck; and finally, that all these are included under Illiger's original genus *Nectarinia!* M. Vieillot has still further added to this unfortunate multiplicity of names, by giving that of *Mellisuga* to Cuvier's *Cinnyris*. This may truly be termed a war of words. In the meantime, as Cuvier was the first who, by giving the name of *Cinnyris*, designated the *Sucriers* of Vaillant, and those *only*, his definition and generic name to these birds should unquestionably supersede all others.



ANODON rugosus,

Wrinkled Horse Mussel.

Generic Character.

Testa transversa, plerumque tenuis. Cardo linearis, edentulus. Lamina cardinalis glabra, aliquando levata, anticè sinu sub ligamento desinens. Impressiones musculares 3. *Ligamentum externum. Animal fluviatile.*

Typus Genericus *Mytilus Anatinus* Lin.

Shell transverse, generally thin. Hinge consisting of a simple marginal lamina without teeth, smooth or slightly raised, terminating at the anterior end in a curve or sinus below the ligament. Muscular impressions three. Ligament external. Animal fluviatile.

Generic Type *Duck Mussel* Pennant.

Specific Character.

A. testâ ovato-oblongâ, crassâ, convexâ, anticè obliquè rotundatâ; intus fulvâ, margine rufo; margine cardinali leviter curvato, infra umbones crasso.

Shell ovate-oblong, thick, convex, anterior obliquely rounded; hinge margin slightly curved and thickened beneath the umbones; inside fulvous, with a reddish margin.

The shells now arranged under the kindred genera of *Unio* and *Anodon* are exclusively fluviatile, or inhabitants of fresh water, and are dispersed both in the old and the new world. In the Linnæan system, the first, being furnished with teeth, are placed among the *Myæ;* and the latter, from having none, are arranged with the *Mytili.* Two common shells, in our own rivers and ponds (*Mya pictorum*, and *Mytilus anatinus Lin.*), will readily present to the student the characters by which they are severally distinguished. The shells of the present genus bear such a general resemblance to each other, and are so simple in their construction, that a corresponding minuteness of discrimination is requisite to characterize the species; I have, therefore, selected for this purpose the modification of the upper margin to which the ligament is attached, and which in other shells forms the bases of the

teeth. This I have termed the hinge margin. The form of the notch or sinus which terminates this part will also be found of much importance in discriminating the species; for no shells vary more in their form, thickness, or convexity than these do, according to their locality, age, or other circumstances.

Shell transverse, oval; rather thick and ventricose; both extremities obtuse; the anterior side (from the umbones to the exterior margin) obliquely rounded; umbones prominent; hinge margin rather thick, slightly curved, and swelled immediately under the umbones; sinus short, abrupt, curved; epidermis coarse, black, and much wrinkled; inside stained with yellow, and having a narrow reddish rim or margin.

For this species, now, I believe, first made known, I am indebted to G. C. Bainbridge, Esq. of Liverpool, who received several specimens from the United States. It appears to have been unknown to Mr. Say, who has published an account of the land and river shells of North America.

The student might be led to suppose, that the two genera of *Unio* and *Anodon* are strongly characterized; for the first includes many of the most ponderous bivalves yet discovered, and the second some remarkably thin and brittle. Among the *Uniones* are shells furnished with hinges of the greatest force, while most of the *Anodons* are perfectly destitute of any; nevertheless, the gradations by which these characters approach each other are very remarkable, and some shells which partake of both have been arranged in separate genera. Of these, the best defined are *Hyria* Lam. and *Dipsas* of Leach; the one allied nearest to *Unio*, but having the cardinal teeth assuming the appearance of lateral or lamellar teeth; the other more resembling the Anodons, but furnished with a strongly defined and elevated lamellar tooth, extending the whole length of the hinge. Between these two genera should be placed another of Lamarck's, called by him *Iridinia*, which has likewise only a simple lamellar plate, but broken into a great number of crenated teeth. The observing Mr. Say has likewise proposed another under the name of *Alasmodonta*, which, however, I shall take another opportunity of noticing.

I have ventured to exchange the ungrammatical name of *Anodonta*, given by Bruguiere to this genus, for *Anodon*, at the suggestion of the learned Dr. Goodall, Provost of Eton College.

MARGINELLA,
Date Shell.

Generic Character.

Testa ovata. Spira brevissima aut nulla. Labium exterius crassissimum, margine interiore crenato. Columella plicata. Basis subintegra. Animal capitatum, capitis fronte profundè emarginato; oculis ad tentaculorum 2 subulatorum basin externam adsitis; tubâ jugulari simplici; pede magno, foliaceo, ponè attenuato; penulâ dilatutâ, testæ latera obtegente.

Typ. Gen. *Volutæ perspicula, glabella, prunum, &c.* Lin.

Shell oval. Spire very short or concealed. Exterior lip very thick, with the internal margin crenated. Pillar plaited. Base nearly entire. Animal capitate; head notched in front, with lengthened, pointed tentacula, at the external base of which are the eyes; neck with a simple tube; foot large, foliaceous, pointed behind; mantle dilated, and folded over the sides of the shell.

Generic Types *Vol. perspicula, glabella, prunum, &c.* Lin.

Lamarck first separated the shells comprised in this genus from the Volutes of Linnæus; their principal distinction rests in the formation of the outer lip, which has a very thick margin, more or less toothed on the inner rim; the base likewise is nearly entire, and the inner lip quite wanting.

By these peculiarities, the *Date Shells* are easily known from the *Volutes* on the one hand, and the *Cowries* on the other; and the invaluable researches of M. Adanson, who has described and figured the animals of each of these genera, has established this distinction on the most solid principles; it will, however, be interesting to trace, by the shells only, how beautifully this arrangement is developed.

The *Marginellæ* may be divided into two sections; the first bearing in form and habit a strong resemblance to the *Cyprææ*, and the second gradually losing these indications, and acquiring those of the spiral *Volutæ*. Among the first are several species, which, like the Cowries, appear destitute of any spire (as in *M. cingulata*); this part, however, begins to show itself in other successive species very progressively, until it becomes elevated and defined in *M. glabella*. This shell may be considered the passage to the second division, in which the species lose the simple oval form of the first, and acquire a contracted base and pointed spire, perfectly resembling *Voluta undulata Lam.* and its allies. The extreme developement of these characters is shown in *M. faba*.

This genus must, then, be considered as connecting those of *Cypræa* and *Voluta* (Lam.); excepting one, the whole of the species are very small; and as the three here selected to illustrate these remarks are frequently seen, and have

been often described under other names, little more is necessary than to detail their specific characters.

MARGINELLA cingulata,
Banded Date Shell — upper figures.

M. testâ ovatâ, albidâ, lineis aurantiacis fasciatâ; spirâ obsoletâ, umbilicatâ; columellâ 6 *plicatâ.*

Shell oval, whitish, banded with orange lines; spire obsolete, umbilicated; pillar 6 plaited.

Voluta cingulata. *Dill.* 525. 56. *Lister.* 803. *f.* 9. *Martini*, 2. *t.* 42. *f.* 419 *and* 20. *Gualt. t.* 25. *c.*? 28. *b. Adanson, t.* 4. *f.* 4.

I AM happy to record Mr. Dillwyn as the first systematic writer who separated this from *Mar. persicula*, which has reddish spots, and is quite a distinct species. The present is a pretty, though common shell, and observed by Adanson in great plenty on the African coast.

MARGINELLA prunum,
Grey Date Shell—middle figures.

M. testâ ovatâ, griseâ, immaculatâ; spirâ parvâ, conicâ; aperturâ fuscâ; columellâ 4 *plicatâ.*

Shell oval, grey, immaculate; spire small, conic; aperture brown; pillar 4 plaited.

Voluta plumbea. *Sol. MSS. L'Egouen. Adanson, tab.* 4. *f.* 3.

V. prunum. *Gm. p.* 3446. 33. *Martini*, 2. *t.* 42. *f.* 422 *and* 3. *En. Meth.* 376. 8. *Lister*, 817. 28. (young.) *Dill.* 530. 69.

THE plaits are very strong, and, together with the outer lip, white; equally common, and from the same country, as the last.

MARGINELLA faba,
Fly-spot Date Shell—lower figures.

M. testâ ovatâ, plicatâ, fulvâ, punctis fuscis ornatâ; spirâ conicâ; basi emarginatâ; columellâ 4 *plicatâ.*

Shell oval, plaited, fulvous, with brown dots; spire conic; base notched; pillar 4 plaited.

V. faba. *Gm.* 3445. *Lister*, 812. 22. *Martini*, 2. *t.* 42. *f.* 431? 432, *and* 3. *En. Meth.* 377. 1. *Gualt.* 28. *Q. Dill.* 528. 63.

THE whorls of this pretty shell are plaited into little nodules; it is usually very small. The supposed variety figured by Martini, and mentioned by Mr. Dillwyn, I am inclined to believe, may be a distinct species.

PALUDINA,
River Snail.

Generic Character.

Testa ovata, spiralis, tenuis, umbilicata. Apertura semi-orbicularis, ad labii anterioris apicem subangulata. Operculum corneum.

Animal fluviatile, branchiatum, viviparum, rostro brevissimo; oculis ad basin externam tentaculorum acutorum 2 appositis; pedis margine antico duplici; lateribus anticè alis parvis instructis; alâ dexterâ involutâ in canalem per quem aqua in tracheam introducitur.

Typus Genericus *Helix vivipara*, Lin.

Shell ovate, spiral, thin, umbilicated. Aperture nearly orbicular, slightly angulated at the top of the inner lip. Operculum horny.

Animal fluviatile, branchiated, viviparous; rostrum very short; eyes placed at the external base of two pointed tentacula; anterior border of the foot double; on each side the fore part of the body a small wing; that on the right side is folded into a channel, by which the water is introduced into the respiratory canal.

Generic Type *Viviparous Snail* Pennant.

The common Shell above quoted, inhabiting many of our rivers, will serve as an excellent example of this genus, which is not numerous, and confined to fresh waters; the animals, inhabiting the European species, appear to have been thoroughly investigated by the continental naturalists; and from their account of its singular construction, the above description has been framed. Science should make no distinction of persons or countries; but it is rather mortifying to observe, that these important discoveries in the organization of animals, are pursued with zeal and ability by foreign naturalists, while most of our own content themselves with expatiating on its impossibility, and even go so far as to hint its uselessness, because we can never become acquainted with the animals of *all* the species of shells in our cabinets: so far this latter part of the argument is most true; but, to ascertain, for instance, the animal of the Cowry, it is surely not requisite we should see those of *all* the species (near 80 in number), before we venture to describe it? any more than it is necessary completely to dissect *every* species of Locust before we pronounce it to be one. Science would, indeed, receive incalculable and lasting benefit, if those of our conchologists who reside near the coast would pay greater attention to the inhabiting animals, and less to the shells, of their neighbourhood; for the first would supply that information they acknowledge is so desirable, and the latter would prevent our indigenous Catalogue from being crowded with many dubious, and even foreign shells.

English conchologists appear not to be aware of the vast number of testaceous animals which are now known. Among those truly eminent men who have prosecuted this study, M. Adanson stands foremost, in having minutely described all those he found on the African coast; in the magnificent work of Poli nearly all the Mediterranean bivalves are exquisitely figured; and those of the land and fresh water will receive complete illustration from M. Ferrusac. Cuvier, Lamarck, Say, and even our own countrymen, Dr. Leach and Montague, have all contributed, more or less, to form a mass of information which it is full time should be employed as the basis of natural classification.

PALUDINA elongata,
Long-spired River Snail—upper and lower figures.

P. testâ olivaceo-fuscâ, fasciis castaneis ornatâ; spirâ productâ, attenuatâ, aperturâ multo longiore; apice acuto.

Shell olive brown, with chesnut bands; spire lengthened, attenuated, much longer than the aperture; tip acute.

INHABITS the rivers of India. It is rather thicker than most of the others, and the umbilicus nearly obsolete.

PALUDINA unicolor,
Olive River Snail—side figures.

P. testâ subventricosâ, totâ olivaceâ; apice acuto; spiræ et aperturæ longitudine æquali; umbilico clauso.

Shell subventricose; uniform olive; apex of the spire acute; aperture and spire of equal length; umbilicus closed.

DISTINGUISHED from the *Helix vivipara* of authors, by having a less convex, and more pointed spire, hardly any umbilicus, and no bands. Inhabits China.

PALUDINA carinata,
Carinated River Snail—middle figures.

P. testâ parvâ, olivaceâ; spirâ aperturâ longiore, apice obtuso, rufo; anfractu basali medio leviter carinato; umbilico obsoleto.

Shell small, olive; spire longer than the aperture; the tip obtuse, rufous; basal whorl slightly carinated in the middle; umbilicus obsolete.

A DISTINCT species, which is never found larger than the figure. I once saw near 100, which had been picked up on the banks of the Ganges; the spire is rather lengthened, always obtuse, and the umbilicus even less than the last.

TAMATIA macrorhynchos.

Greater pied Puff-bird.

Generic Character.

Tamatia. *Cuvier.*—Capito. *Viell. Tem.*

Rostrum validum, compressum, sub-rectum; mandibulâ superiore ad apicem obtusè aduncâ, emarginatâ, superioris margine inferioris marginem obtegente. Nares basales sulcatæ, aperturâ terminali, rotundâ parvâ, plumis rigidis incumbentibus tectâ. Frons, rictus, et mentum vibrissis rigidis, elongatis, armati. Pedes scansorii, versatiles; digiti exterioris elongati articulo primo cum digito exteriore connexo. Rectrices 12, *lineares, subrotundatæ.*

Typus Genericus *Bucco tamatia* Linn. Lath.

Bill strong, compressed, nearly straight; the tip of the upper mandible curved, notched, and obtuse; the margin folding on that of the lower mandible. Nostrils basal, sulcated; the aperture terminal, round, small, hid by bristly incumbent feathers. Chin, front, and gape, with strong lengthened bristles. Feet scansorial, versatile; the outer toe long, and connected by the first joints to the inner toe. Tail feathers 12, linear and slightly rounded.

Generic Type *Spotted-bellied Barbut* Latham.

Specific Character.

T. niger; fronte, gulâ, jugulo, caudæque apice albis; abdomine albo vel fulvo; fasciâ pectorali nigrâ.

Black; front, throat, forepart of the neck, and tips of the tail feathers, white; body white or fulvous; pectoral bar black.

Bucco macrorhynchos. *Gmelin* 406. *In. Orn.* 1. 203. *Gen. Zool.* vol. ix. p. 33.

Greater pied Barbut. *Lath. Syn.* 2. p. 498.

There is something very grotesque in the appearance of all the Puff birds; and their habits, in a state of nature, are no less singular. They frequent open cultivated spots near habitations, always perching on the withered branches of a low tree; where they will sit nearly motionless for hours, unless, indeed, they descry some luckless insect passing near them, at which they immediately dart, returning again to the identical twig they had just left, and which they will sometimes frequent for months. At such times the disproportionate size of the head is rendered more conspicuous by the

bird raising its feathers so as to appear not unlike a puff ball; hence the general name they have received from the English residents in Brazil; of which vast country all the species, I believe, are natives. When frightened, their form is suddenly changed by the feathers lying quite flat; they are very confiding, and will often take their station within a few yards of the window; the two sexes are generally near each other, and often on the same tree.

Total length rather more than eight inches; bill, one inch and three quarters from the gape, and half an inch less from the nostrils; it is very strong, thick, black, and slightly compressed; the tip of the upper bifid; the bristles at its base covering the nostrils are long and incurved, and those situated at the base, under the eye, very stiff; the upper part of the head black, the feathers much lengthened; the sides, front, ears, and forepart of the throat white, uniting at the back of the head into a narrow collar. The whole of the remaining plumage above is black, glossed with greenish; across the breast a black bar, which separates the white of the throat from the buff colour which tinges the abdomen and vent; the flanks are marked with dusky transverse stripes; the tail is slightly rounded and three inches and a half long, some of the feathers with a very fine line of white at their tips; all the quill feathers have the base half of their inner shafts white, as well as the greater covers inside, the lesser being black; legs and claws blackish.

I am disposed to consider this bird only as a variety of the *Greater pied Barbut* of Dr. Latham, differing in having the plumage on the under part of the body pale ferruginous, or buff colour, instead of white, as in the specimens he described from Cayenne; mine are from Southern Brazil, where the species is not uncommon.

This genus includes the American species of the Linnæan Barbuts; the birds connecting this group with the cuckows are arranged by Vieillot in a separate genus, named by him *Monassa;* which I think should be retained, as it is of much importance to designate strongly connecting links between families apparently very opposite.

XENOPS genibarbis,

Whiskered Xenops.

Generic Character.

Xenops. (*Hoffmansegg. in Illiger. Prod.* p. 213).

Rostrum mediocre, rectum, acutum, valdè compressum, inversè cultratum, i. e. *culmine recto, gonyde recurvâ ascendente. Nares basales, laterales, ovatæ, parvæ, patulæ. Lingua—? Pedes mediocres, congrui. Digiti antici basi coadnati, laterales subæquales. Hallux digitum medium æquans.* Illiger.

Bill moderate, straight, acute, much compressed, and inversely curved; the top of the upper mandible being straight, and the edge of the lower ascending or recurved. Nostrils basal, lateral, oval, small, and covered by a naked membrane. Tongue—? Feet moderate, claws united at their base, the lateral ones nearly equal; the hind claw as long as the leg and the middle toe.

Specific Character.

X. suprà fusco-rufa, infrà griseo-fusca; mento, superciliis maculisque jugularibus et pectoralibus albentibus; maculo infra aures niveo; remigum secundorum nigricantium basi fulvâ, apicibus marginibusque rufis.

Above reddish-brown, beneath grey-brown; chin, eyebrows, and spots on the throat and breast, whitish; beneath the ears a snowy spot; lesser-quills blackish, the base fulvous, the tips and margins rufous.

Xenops genibarbis *Illiger Prod.* p. 218. (1811.)
Neops ruficaudus *Vieillot. Orn. Elem.* p. 68. (1816.)

A very extraordinary and not inelegant little creature, having a bill totally different from any other bird. Its general habit evinces a close connexion with the *Sittæ*, particularly those of New Holland; some of which have their bills (which are slender) slightly inclining upwards, thus forming a connexion between *Xenops* and the straight-billed *Sittæ* of the old world.

The figure is of the male, and its natural size; the head dark brown with pale spots; the back of a reddish tinge, and the rump and tail rufous; tail much rounded, and of twelve feathers; the three outer and the two pair in the middle entirely rufous, the other pair having the inner shafts black; the greater quills black; the last having an internal bar of pale fulvous. Beneath the eye a spot of white downy feathers, with a dusky border above and below; there is a little difference between this and Illiger's bird, but it may be only sexual.

Inhabits Brazil, but is rare.

Pl. 100.

PAPILIO Evander.

GENERIC CHARACTER.—See Pl. 92.

SPECIFIC CHARACTER.

Pap. (Tro. dent.) Alis dentatis, nigris; posticis suprà maculis quinque violaceo-chermesinis; anticis subtùs fasciâ albidâ, transversâ, mediâ. Godart.

Pap. (Tro. dent.) Wings dentated, black; posterior above with a five-cleft, violet-crimson spot; anterior beneath with a transverse, central, whitish band.

P. Evander. *Godart, En. Meth. vol.* ix. *p.* 32. *no.* 18.

BOTH sexes of this newly described insect are here, for the first time, figured; that above is of the male, and beneath is represented the under side of the female. The crimson spots (which finely relieve the brownish velvet-like black on the upper surface of the wings) are, in some lights, most beautifully glossed with changeable violet, and appear either darker or paler according to the position in which the insect is viewed.

Southern Brazil is, undoubtedly, more rich in this splendid family than the northern provinces of that vast country. I never saw this species except in Rio Janeiro, where it is common: nor do I know of any other, belonging to the division of *Trojani,* which have the lower wings sharply dentated, and with an appearance of obsolete *acute* tails; a character more developed in the female of this species than in the male.

Pl. 101.

PAPILIO Nox.

GENERIC CHARACTER.—See Pl. 92.

SPECIFIC CHARACTER.

P. (Troj. orb.) Alis immaculatis fuscis, inferis orbiculatis, ecaudatis; fronte, strigâ laterali subthoracicâ anoque rubris.

P. (Troj. orb.) Wings immaculate, brown; lower orbicular, not tailed; front, lateral stripe on the thorax beneath, and tip of the body red.

THE colours of this insect are unusually sombre, and present a striking contrast to the gaudy tints by which the majority of these gay creatures are ornamented; it is so far remarkable, but it is more interesting to the entomologist, as being an unpublished addition to this genus. It was discovered in Java by Dr. Horsfield; and the drawing was made from an unique specimen which I observed while engaged in a long and laborious arrangement of the Linnæan *Papilionidæ*, (as they now appear at the India House,) collected by that zealous naturalist for the India Company.

Between the nerves of the anterior wings (which are remarkably large) are parallel central stripes, of a darker brown; a character common to many Indian species, but not found, I believe, in any of those from the New World.

AMPULLARIA fasciata,

Banded Apple Snail.

GENERIC CHARACTER.

Testa globosa, umbilicata. Spira depressa vel brevissima. Apertura integra, magna, ovata. Operculum testaceum vel corneum. Animal fluviatile.

Shell globose, umbilicated. Spire depressed or very short. Aperture entire, large, oval. Operculum shelly or horny. Animal fluviatile.—Generic Type *Helix ampullacea* Lin.

SPECIFIC CHARACTER.

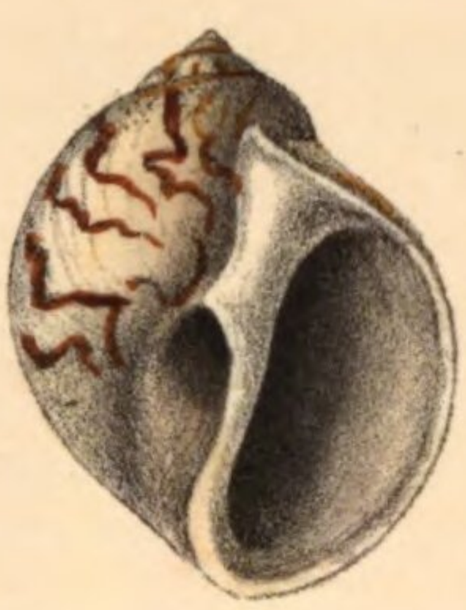
A. testâ ovato-globosâ, olivaceâ, fasciis obscuro-purpureis angustis ornatâ; spirâ brevi, levatâ, apice acuto; labii margine tenui; umbilico mediocri.

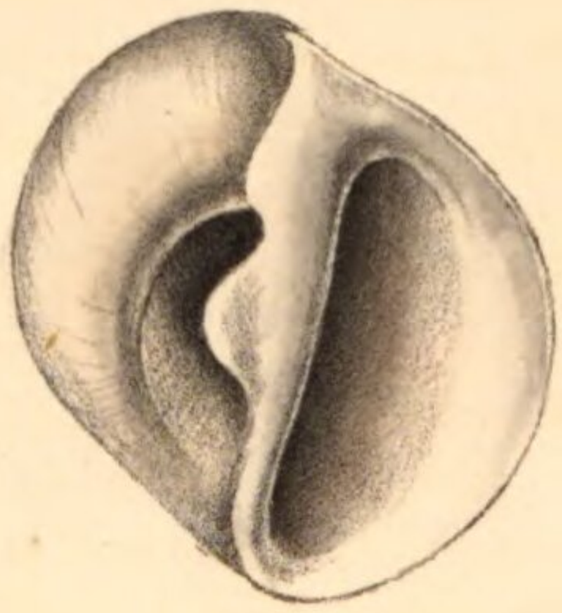
Shell ovate-globose, olive, with narrow bands of obscure purple; spire short, elevated, the tip acute; margin of the lip thin; umbilicus moderate.

Am. fasciata. *En. Meth. pl.* 457. *f.* 3. *f.* 4. *(reversed and young).*
Helix ampullacea. *Linn. Lister*, 130. *f.* 30. *Seba, t.* 38. *f.* 1 *to* 6, 58, 59. *Chemnitz*, 9. *t.* 128. *f.* 1135. *Gualt. t.* 1. R.

IN the selection of generic characters, sufficiently important to separate Ampullaria from Paludina, great difficulty at present exists; as the fundamental principle on which they should be founded (the formation of the animal) is entirely wanting. It is only known that these shells, like the Paludinæ, are furnished with an operculum. The absence or presence of this organ has been found of the first generic importance; though the substance of which it is composed, as well as the form it assumes, can be considered only as indicating specific distinctions. This is proved from the fact, that among the Naticæ some have horny, and some shelly, opercula: in Phasianella, this part is, in some species, almost flat, in others remarkably convex; in *Turbo, Lam.* its form is even more variable, and in the present genus a similar uncertainty exists. One species alone has been positively described as having this part shelly, while in two others the operculum is as certainly known to be horny; to these last may be added a third, found by myself in the lakes of Pernambuco in Brazil, but to which I have not immediate access. The shells here figured were, however, received from the same place by Mrs. Mawe, and, I think, are of the identical species. The spire is sometimes worn, and the whole shell very thin.

Several fossil shells of this genus are mentioned as existing in the extinct volcanoes of Ronca, in bituminous marl near Pont St. Esprit, &c. as quoted (on the authority of the illustrious Cuvier) by Mr. Bowdich.





NATICA punctata,
Spotted Natica.

GENERIC CHARACTER.—See Pl. 75.

SPECIFIC CHARACTER.

N. testâ ovato-globosâ, crassâ, albâ, strigis undatis punctisque castaneis ornatâ; umbilico magno, aperto, simplici; columellæ basi obsoletâ.

Shell ovate-globose, thick, white with waved stripes and minute chesnut dots; umbilicus large, open, simple; base of the pillar obsolete.

Nerita punctata. *Martini* 11. *pl.* 197. *f.* 1903 *and* 4. *Seba, pl.* 38. *f.* 33? *Gualt. pl.* 67. *f. M. and T. (good.)*

Gochet. *Adanson Sen. pl.* 13. *f.* 4.

THE undulated brown lines in this shell, are sometimes broken into three irregular bands of either lines or spots, between which are numerous minute dots; in other varieties these dots are only round the suture, and in some totally wanting. Its most constant character rests on the umbilicus, which is rather large, very deep, and without any appearance of the base of the pillar. The mouth is also more contracted than usual. It is said by Adanson to be common on the coast of Senegal; and this observing naturalist adds, that the operculum is testaceous, of a pure white, and marked with numerous concentric grooves at the upper angle.

NATICA effusa.

N. testâ depressâ, albâ, maculis castaneis ornatâ; spirâ brevissimâ; columellæ basi crassâ, planâ, ad labium interius sinu annexâ.

Shell depressed, white, with chesnut spots; spire very small; umbilicus large, open, spreading; base of the pillar thick, flat, and united to the inner lip by a sinus.

IN form, and sometimes in colour, this shell bears a close resemblance to the oval variety of N. mamilla (*Nerita mamilla Lin.*); but, the umbilicus, instead of being entirely closed up, is remarkably open, very deep, and the pillar forming an elevated ridge within; colour in the shells of this genus is a very secondary, and, in many cases, a most fallacious guide for the discrimination of the species; for this is sometimes pure white, and I have specimens of *N. mamilla* entirely orange. This is a rare shell, probably from India.

NATICA, *Adans.*

TROCHILUS recurvirostris,

Recurved-bill Humming Bird.

GENERIC CHARACTER.—See Pl. 82.

SPECIFIC CHARACTER.

T. aureo-viridis, jugulo smaragdino; pectore medio corporeque nigris; rectricibus lateralibus subtùs topazinis; rostro recurvo.

Golden green; throat shining emerald green; middle of the breast and body black; lateral tail feathers beneath topazine; bill recurved.

THE extraordinary formation in the bill of this beautiful little creature, is without parallel in any land bird yet discovered, and presents in miniature a striking resemblance to that of the Avoset. It is almost impossible to conjecture rightly the use of this singular formation; but it appears to me not very improbable, that the principal sustenance of the bird may be drawn from the pendent *Bignoniæ*, and other similar plants, so common in South America, whose corollæ are long, and generally bent in their tube; the nectar, being at the bottom, could not be reached either by a straight or incurved bill, though very easily by one corresponding to the shape of the flower.

The figure is the size of life. Bill black, depressed along the whole length, but more especially at the tip, which is rounded, thin, obtuse, and recurved in both mandibles; the under of which, towards the middle, has a convex swelling, which gives the recurvature a stronger appearance. All the upper plumage and body beneath golden-green; the throat, to the breast, shining with scale-like feathers of a vivid emerald-green. From the breast to the vent is a stripe of black down the middle; thighs white; tail even, the two middle feathers dull greenish-blue, the rest above obscure coppery-brown, but beneath of a rich shining topaz colour.

I believe this bird is *unique;* I purchased it at Mr. Bullock's sale, and that gentleman received it from Peru. It presents so much of the genuine habit of the *Trochili*, that I have retained it under that genus; for, though the bill is differently formed, that exception does not point out any important difference from the general economy of those birds.

106.

CURSORIUS Temminckii,

Black-bellied Courier.

Generic Character.

Rostrum mediocre, ad apicem compressum, mandibulis arcuatis, basi depressâ, apice acuto, integro. Nares basales, ovatæ, aperturâ elongatâ, laterali. Pedes longi, digitis tribus anticis omninò divisis, interioribus brevissimis, ungue medio pectinato. Remigum penna prima longissima.—Typus Genericus *Cursorius Europæus*, Lath.

Bill as long as the head; both mandibles arched, and towards the end compressed; base depressed, the tip acute and entire; nostrils basal, oval, the aperture oblong and lateral; legs long, with three toes in front entirely separated, the inner toes very short, the middle with the claw serrated; wings with the first quill longest.—Generic Type *Cream-coloured Plover* Latham.

Specific Character.

C. colore columbino; vertice pectoreque ferrugineis; torquibus nuchalibus 2; torque inferiore, remigibus, abdomineque medio nigris; torque superiore abdominisque lateribus albis.

Cream-coloured brown; top of the head and breast ferruginous; nuchal collar double; the lower, with the quills and middle of the body, black; the upper, and the sides of the body, white.

Dr. Latham first instituted this genus, of which two species were then known; M. Le Vaillant discovered another in Africa; and I am happy in now adding a fourth from the same country, in the possession of Mr. Leadbeater. No ornithologist has paid greater attention both to the natural affinities, and to the illustration of the genera allied with these birds, than Professor Temminck; and I therefore feel pleasure in naming this bird in honour of that excellent ornithologist, from whom whenever I have differed, it has been from the sole wish of eliciting truth. Total length from the bill to the tail eight inches; bill one inch from the gape, and half from the end of the nostrils; the colours of the bird are best seen in the figure; the middle of the body, and the quill feathers, deep black; legs three inches from the naked thigh to the tip of the middle toe, the claw of which is serrated internally; tail round; the middle feathers not spotted; the two next with a black dot near the tip, which, in the next pair, is further broken into two white dots; the outer pair white. These birds inhabit the arid tracts of Africa, at a distance from the sea, and run amazingly swift. One species has occasionally visited England.

Pl. 106.

TROCHILUS ensipennis,

Blue Sickle-winged Humming Bird.

GENERIC CHARACTER.—See Pl. 82.

SPECIFIC CHARACTER.

T. (div. curvirostræ) aureo-viridis, mento juguloque cæruleo-violaceis; rectricibus paribus; alis falcatis, remigum primorum scapis dilatato-compressis.

Curved-bill Humming Bird, golden-green; chin and fore part of the throat violet-blue; tail even; wings falcated, greater quills with the shafts dilated and compressed.

I HAVE already offered some observations on the remarkable construction in the wings of *T. falcatus*, figured at pl. 83; and the bird now before us is another unrecorded species, possessing exactly the same formation. I was at first inclined to believe this bird was the male of the *T. latipennis*, (or *l'Oiseau Mouche à larges tuyaux* of Buffon), from the under plumage in that species being uniform grey, a common indication of the female Humming Birds; but a further comparison of the two has proved this supposition to be erroneous. They differ, not only in colour, but in their bills; in that of *T. latipennis*, the curvature is so slight, that it may be almost called straight; whereas in this, the curve is very apparent. I have little doubt future observations will show, that these singular quill-feathers, now known to exist in three species of this family, are peculiar only to the male birds.

This extremely rare bird is in my own collection, and is not improbably *unique;* the figure is strictly of the natural size; the plumage, above and below, is a uniform deep green, with a metallic reflection; half way down, the throat is dark violet blue; tail even, and very broad, the middle feathers obscure green, the next pair raven or bluish-black, and the others white, with a black base.

The progress which has been made towards ascertaining the geographic distribution of animals, leaves no doubt that this bird is an inhabitant of either the Continent or Islands of South America; but of what particular country is unknown.

108.

RAMPHASTOS Dicolorus,
Yellow-billed Toucan.

GENERIC CHARACTER. — See Pl. 45.

SPECIFIC CHARACTER.

R. niger, gulâ aureâ; fasciâ pectorali latâ tegminibusque rubris; rostro viridi-flavo, basi fasciâ nigrâ transversâ ornatâ; mandibulæ superioris margine laterali rubro; culmine plano.

Black; throat golden-yellow; broad pectoral band and tail-covers red; bill greenish-yellow, the base with a transverse black band, and the lateral margins of the upper mandible red; the top flat.

R. dicolorus. *Gm. p.* 356. *Lath. Ind. Orn. p.* 135. 2. *Turton. vol.* i. 211.

Yellow throated Toucan. *Lath. Syn.* 1. 325. *Turton.* 1. 211. *Brisson. Orn.* 4. *p.* 411. *pl.* 31. *f.* 1. *Buffon Pl. Enl.* 269.

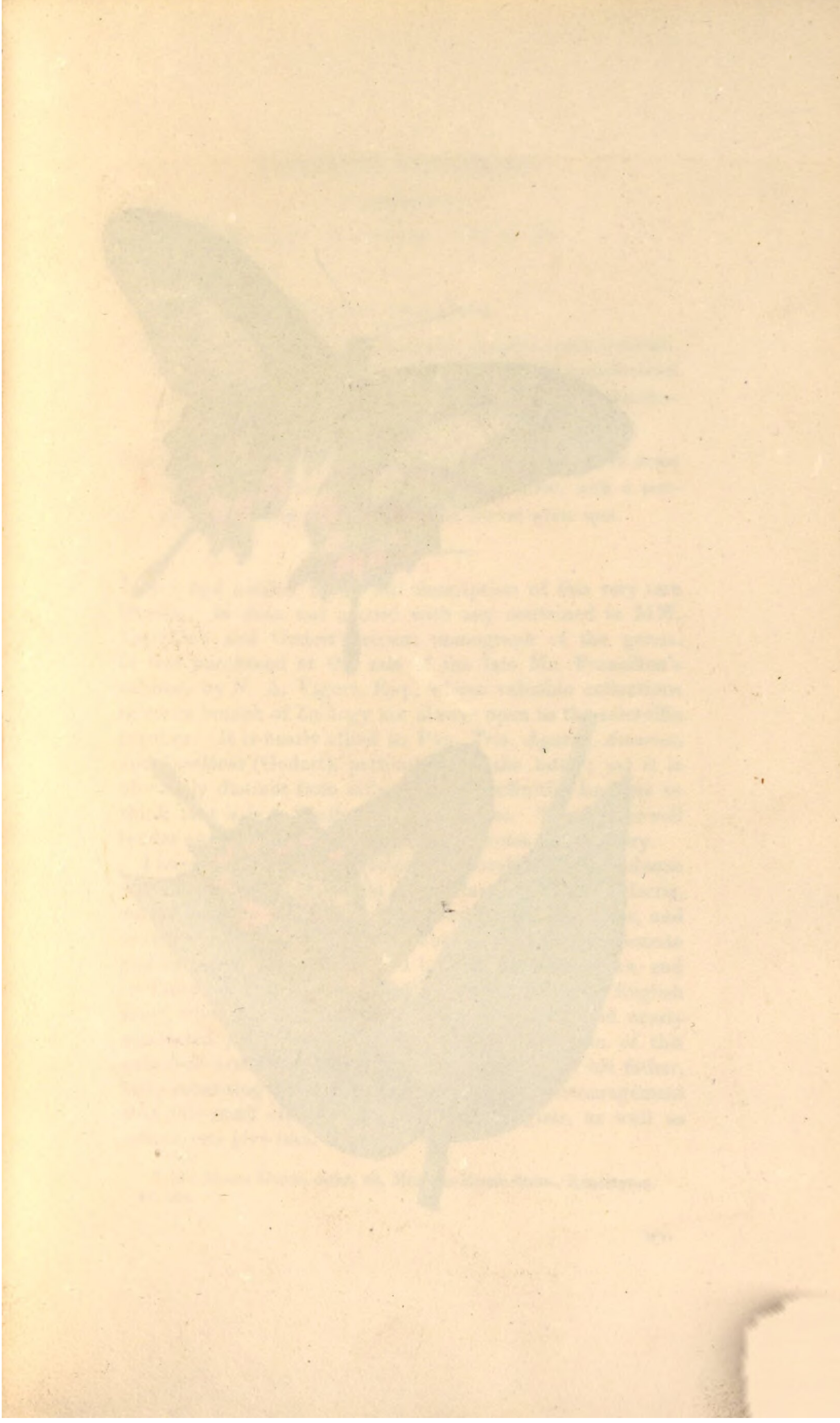
Le petit Toucan à ventre rouge. *Vaill. H. N. des Toucans, pl.* 8. *(optimè).*

THIS is the smallest species of the genuine Toucans yet known, inhabiting, though sparingly, the northern and southern extremities of tropical America. It is a species which seems to have been well understood by Linnæus and the older ornithologists, though none of them have described the form or peculiarities of the bill; it is probably owing to this omission, that Dr. Shaw has created an imaginary species in *General Zoology*, under the name of *R. pectoralis;* compounded of the descriptions he gathered of this bird, and the Linnæan *R. tucanus*. Dr. Latham's description is also inaccurate; nor is it improved in the new edition of his Synopsis, probably from not having himself seen the bird. Of the figures, there is a masterly delineation by Barraband, in Le Vaillant's work, but those of Buffon and Brisson are not to be trusted.

Total length about sixteen inches: bill three and a half; it is shorter and much thicker along the back, than that of any other species; this part also is broad, and quite flat; the serratures of the margin small, and the upper mandible only edged with a line of red; the sides are compressed, and the colours greenish-yellow; the orbits chesnut-red, and the feet (as in all the Toucans when fresh) delicate fine blue.

Dr. Langsdorff favoured me with a specimen of this rare bird, shot by himself in Southern Brazil; the sexes have been dissected by that able naturalist, but to which the one here figured belongs, I am unacquainted.

Pl. 108.



169.

PAPILIO Harrisianus.

GENERIC CHARACTER.—See Pl. 92.

SPECIFIC CHARACTER.

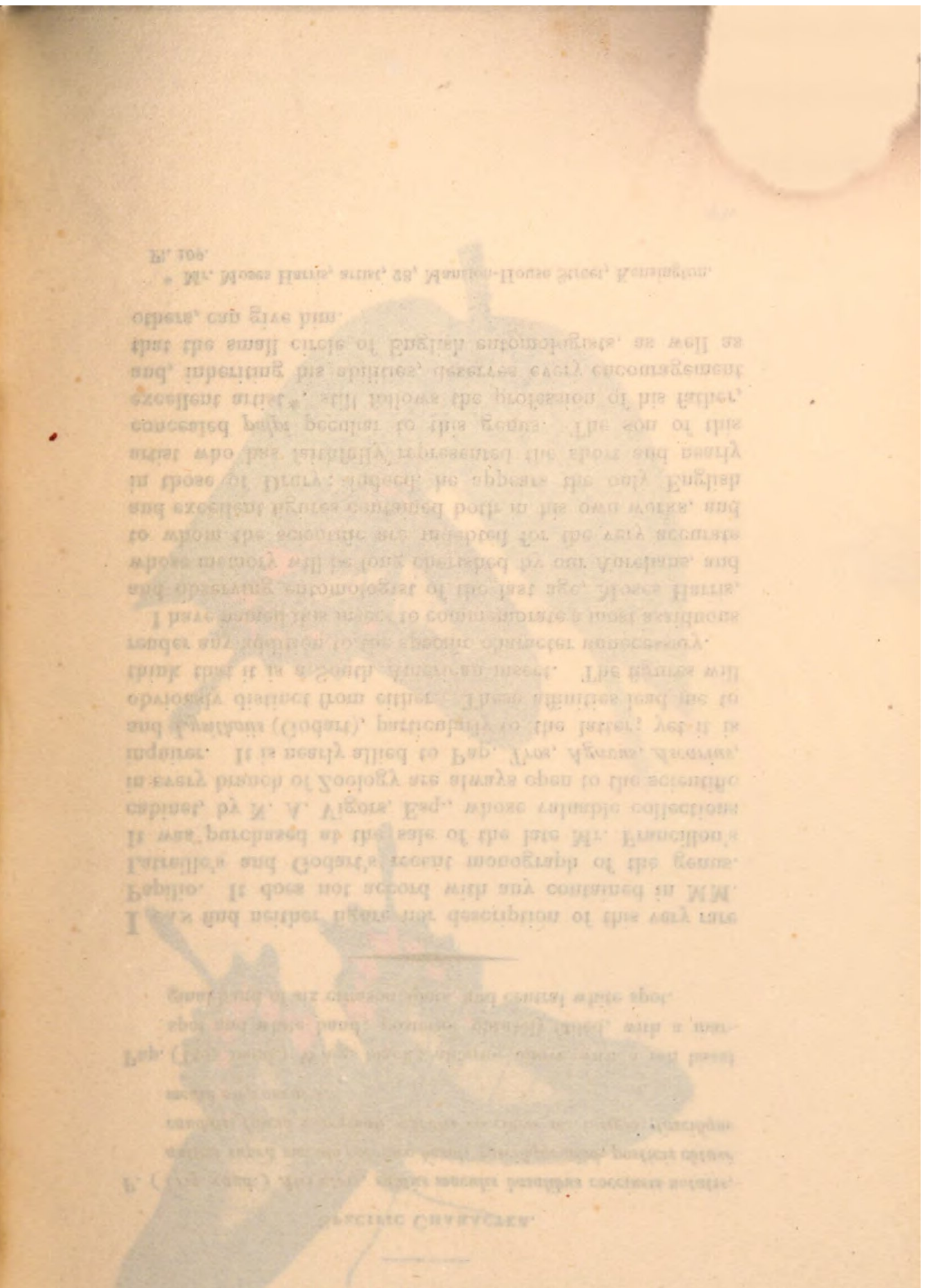
P. (Troj. caud.) Alis atris, subtùs maculis basalibus coccineis notatis, anticis suprà maculo coccineo basali fasciâque albâ, posticis obtusè caudatis fasciâ marginali maculis coccineis sex insigni, fasciâque mediâ albâ ornatis.

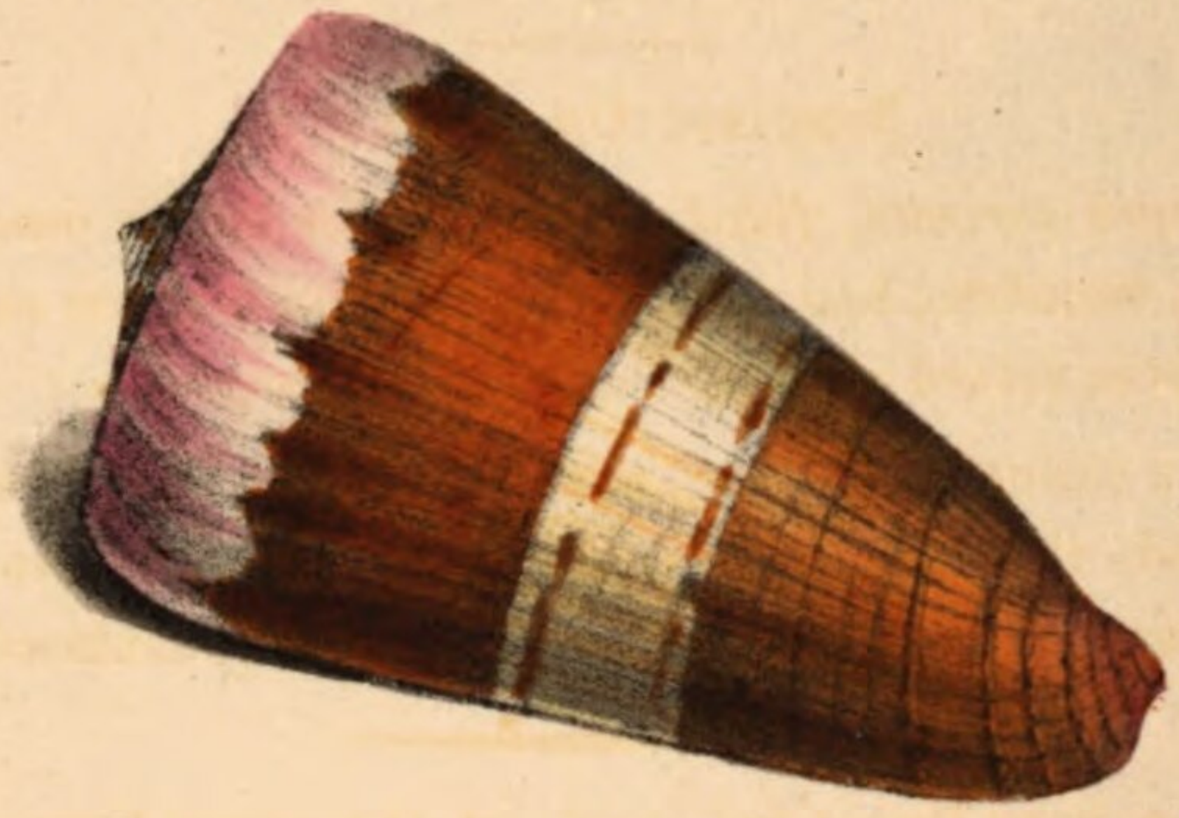
Pap. (Troj. caud.) Wings black; anterior above with a red basal spot and white band; posterior obtusely tailed, with a marginal band of six crimson spots, and central white spot.

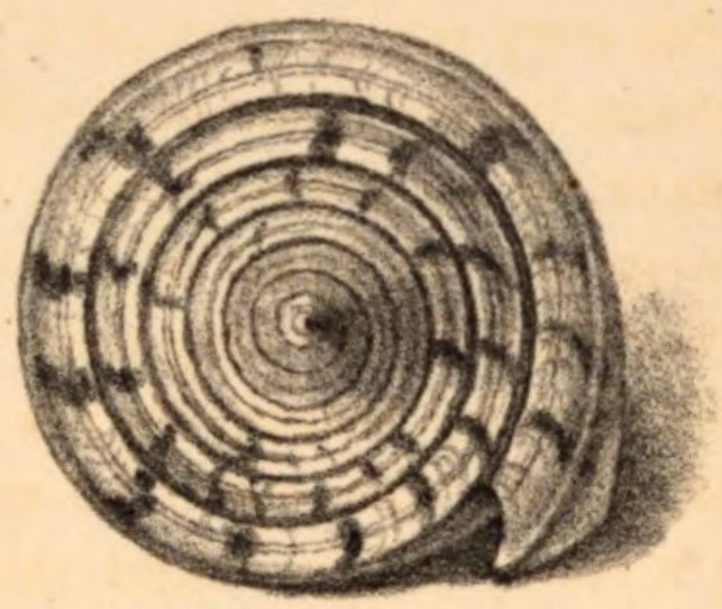
I CAN find neither figure nor description of this very rare Papilio. It does not accord with any contained in MM. Latreille's and Godart's recent monograph of the genus. It was purchased at the sale of the late Mr. Francillon's cabinet, by N. A. Vigors, Esq., whose valuable collections in every branch of Zoology are always open to the scientific inquirer. It is nearly allied to Pap. *Tros, Agavus, Ascarius,* and *Lysithoüs* (Godart), particularly to the latter; yet it is obviously distinct from either. These affinities lead me to think that it is a South American insect. The figures will render any addition to the specific character unnecessary.

I have named this insect to commemorate a most assiduous and observing entomologist of the last age, Moses Harris, whose memory will be long cherished by our Aurelians, and to whom the scientific are indebted for the very accurate and excellent figures contained both in his own works, and in those of Drury; indeed, he appears the only English artist who has faithfully represented the short and nearly concealed *palpi* peculiar to this genus. The son of this excellent artist*, still follows the profession of his father, and, inheriting his abilities, deserves every encouragement that the small circle of English entomologists, as well as others, can give him.

* Mr. Moses Harris, artist, 28, Mansion-House Street, Kensington.







CONUS cinctus,

Purple tipped Admiral Cone.

GENERIC CHARACTER.—See Pl. 65.

SPECIFIC CHARACTER.

C. testâ suprà carinatâ, fulvâ, fasciis duobus albidis ornatâ; spiræ brevis, maculatæ, basi depressâ, anfractibus concavis sulcis duobus insculptis, suturâ alveatâ; basi granosâ, purpureâ.

Shell above carinated, fulvous, with two whitish bands; spire short, spotted, the base depressed; the whorls concave with two depressed lines; suture channelled; base granulated, purple.

THIS is a very beautiful, and, at the same time, very rare shell; it formerly belonged to Mrs. Angus, at whose sale it passed into the cabinet of Mr. Dubois. Its general appearance resembles very much that of *C. Maldivus Lam.* known to our collectors by the name of the Spanish Admiral: the spire will, however, at once distinguish it; each volution is strongly concave in the middle, in which part are two or three delicate indented lines, very near each other, and following the volutions; the suture also is sufficiently open to be termed channelled; the spire is quite flattened at the base, (forming a sharp ridge round the top of the body whorl), and only prominent near the tip. In the Spanish Admiral Cone, the spire is quite smooth, the whorls being flat, and in all the specimens I have seen, (and they are many), the suture is quite closed up, though Lamarck (probably mistaking the present shell) says, "spirâ canaliculatâ;" the base, moreover, is narrowed, smooth, and black; not gibbous, granulated, (or striated,) and purple, as in this shell.

A variety in my own cabinet presents some differences; the base is but slightly granulated, and the tip not purple; these are, however, subordinate characters, and constitute it only a variety.

I shall take an early opportunity of pointing out the differences between *C. generalis* and *Maldivus*, two shells even more likely to be mistaken for each other than those above-mentioned.

CYPRÆA tessellata,

Mosaic Cowry.

Generic Character.

" *Testa lævigata, ovata, convexa, marginibus involutis, apertura longitudinalis, angustata, utrinque dentata, ad extremitates effusa. Spira minima, obtecta.*"— Lam. Ann. du Mus. vol. 16. p. 443.

Animal marinum (Pectinibranchi). Penula dilatata, testam omnino obtegens. Tentacula depressa, subulata. Oculi juxta tentaculorum basin externam adsiti. — Adanson, H. N. du Senegal.

Shell smooth, oval, convex, the margins turned inward; aperture longitudinal, narrow, toothed on both sides, the extremities effuse. Spire minute, concealed. — *Lamarck.*

Animal marine; mantle dilated and folding over the whole shell. Tentacula depressed, subulate, at the external base of which are the eyes. — *Adanson.*

Specific Character.

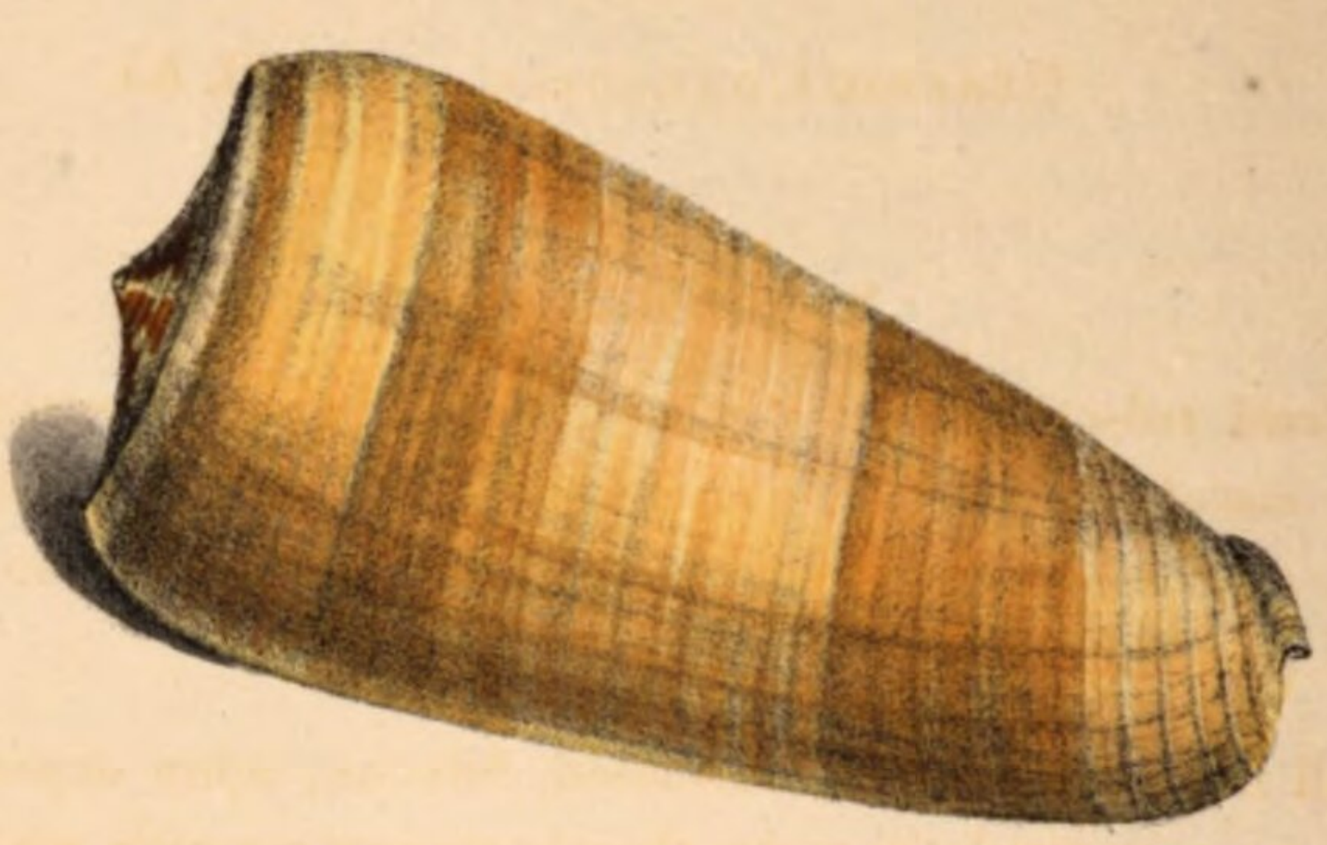
C. testâ obtusâ, gibbâ, aurantiacâ, ad latera tesseris albis fuscisque alternis tessellata.

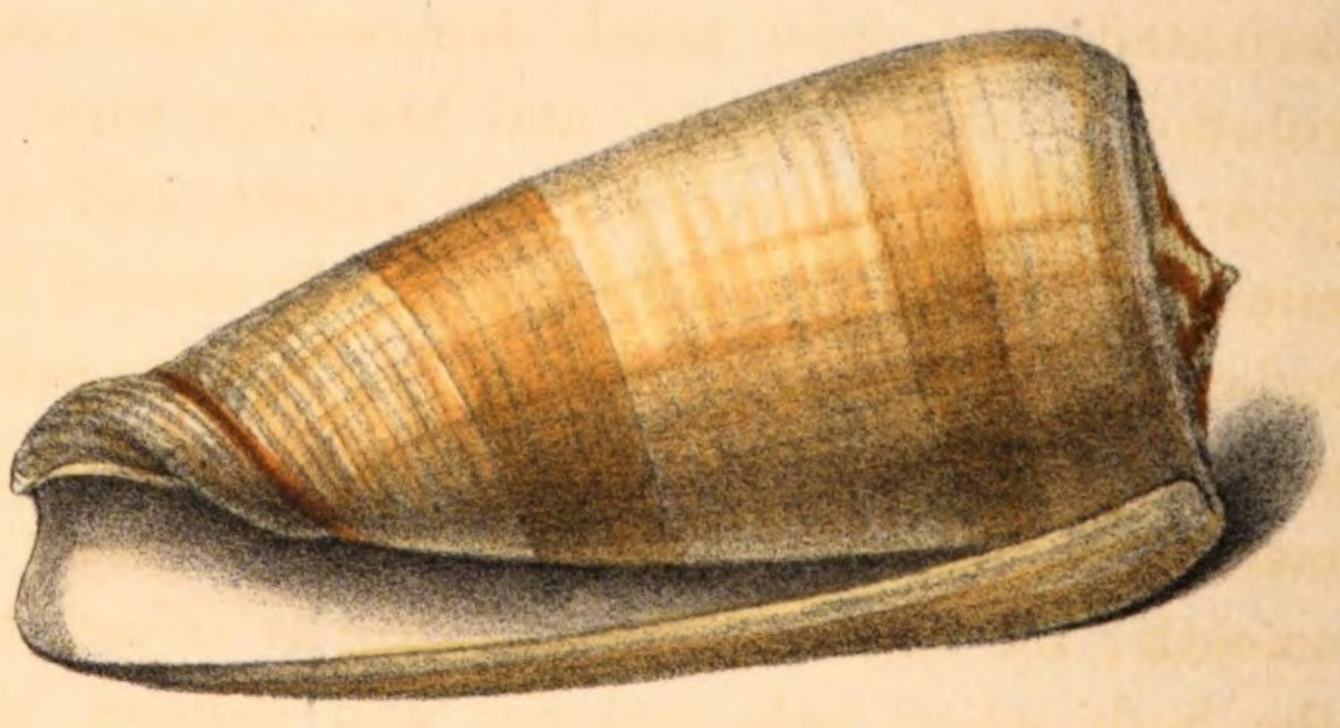
Shell obtuse, gibbous, orange, the sides with alternate tessellated spots of white and brown.

Amidst all the changes in systematic arrangement which Conchology has, of late years, undergone, the *Cyprææ* remain untouched; indeed, they present such a uniformity of character, that the most superficial observer cannot mistake them. A few species of Ovula, however, bear a strong resemblance to the genus, but may be known from not having teeth on each side the mouth. The Cowries are without exception the most beautiful of all shells, whether the richness and harmony of their colours, or the exquisite polish of their exterior, is considered; but (like many other things of more consequence) their beauty is depreciated by their frequency. The indefatigable Lamarck has described sixty-six species, only one of which inhabits the European seas. Adanson has furnished a minute account of the structure of the animal, and Bruguiere has given long and interesting details of its economy.

Mrs. Mawe is in possession of this very beautiful little shell; a string of them were presented her as coming from New Zealand: that which formed the centre was the only perfect specimen, and from that the figures were taken.

Pl. 111.





112.

CONUS carinatus,

Carinated Cone.

GENERIC CHARACTER. — See Pl. 65.

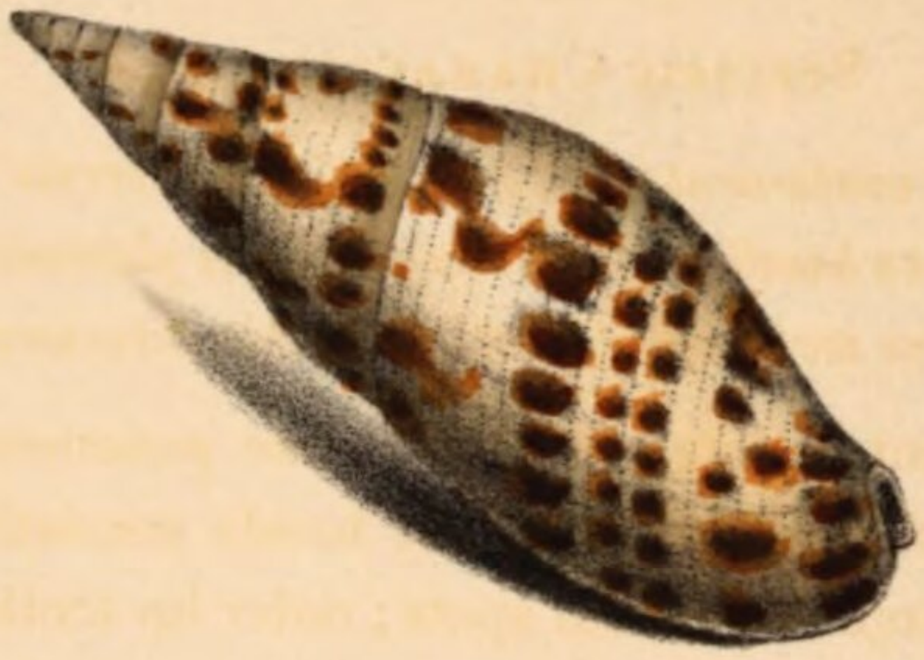
SPECIFIC CHARACTER.

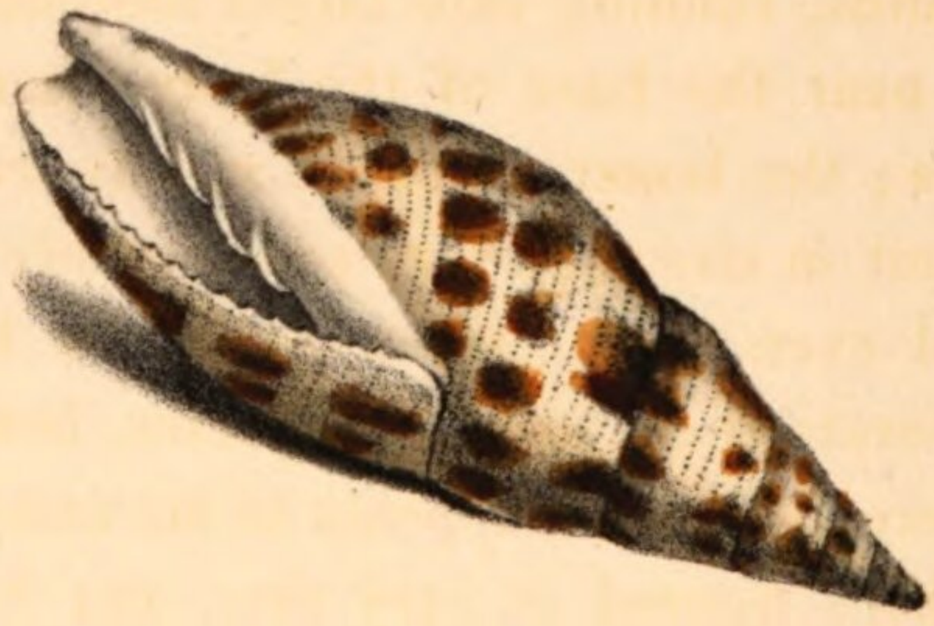
C. testâ sub-cylindraceâ, carinatâ, fulvâ; spiræ depressæ, concavæ, maculatæ, apice acuto, anfractibus valdè concavis, striis numerosis subgranosis insculptis; basi obtusâ, striatâ, cingulo gibbo circumdatâ.

Shell nearly cylindrical, carinated, fulvous; spire depressed, concave, spotted, tip acute, the whorls very concave, with numerous subgranulated striæ; base obtuse, striated, with a gibbous belt.

ANOTHER rare and remarkable shell of this numerous genus, from the same collection as the Cone last described. I believe it to be hitherto unfigured, and unknown to any writer; for I cannot reconcile it with any of Lamarck's descriptions of species not yet represented.

I know of no other specimen than the very fine one in Mr. Dubois' cabinet. The shell is heavy; the body whorl contracted at the upper part, where the margin is sharply carinated; the spire much depressed and concave; each volution is also concave, and has from three to four fine grooves, which occupy its full extent, and which appear minutely granulated; but this is only caused by the longitudinal lines of growth: the tip of the spire acute; the base is wider in circumference than usual, with a gibbous belt marked by elevated striæ, in other respects the shell is smooth; the base of the aperture is effuse, the bands on the body whorl pale and not well defined, and the spire slightly spotted. It is doubtless an inhabitant of the Asiatic ocean.





MITRA pertusa. var.

Cardinal Mitre—*large spotted variety.*

GENERIC CHARACTER.—See Pl. 23.

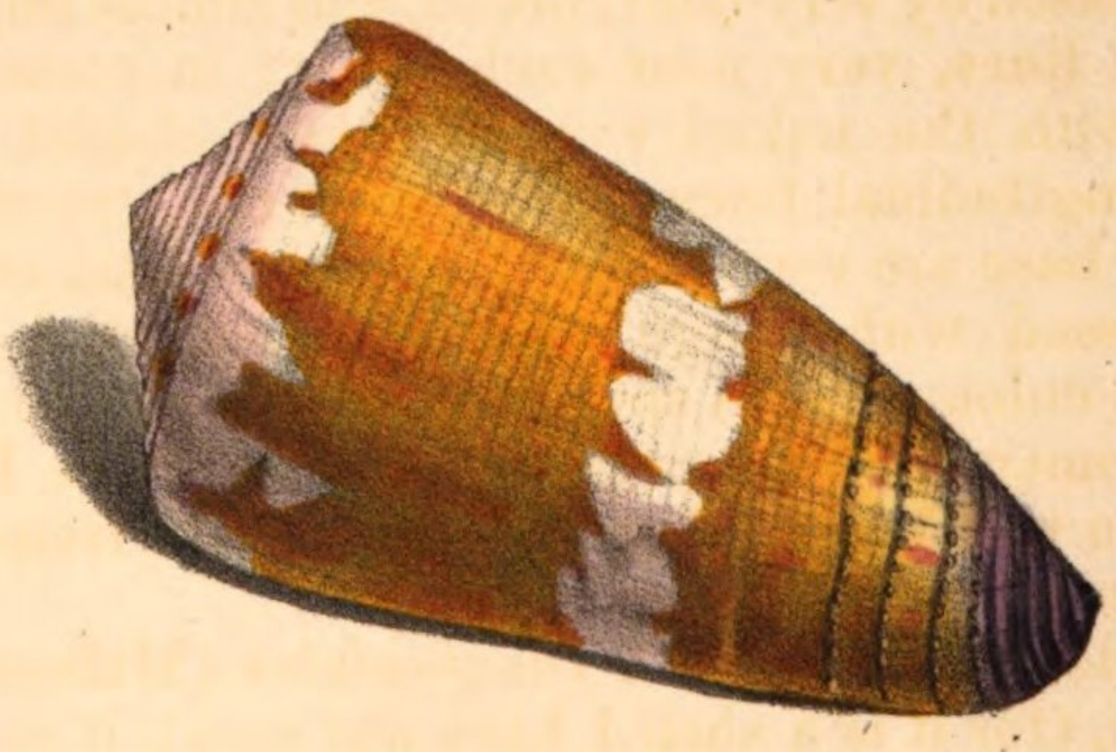
SPECIFIC CHARACTER.

M. sect. 3. *Testâ ovato-acutâ, albâ; striis transversis puncticulatis ornatâ, anfractu basali crasso, tesseris parvis plurimis spadiceis vittato, tesserisque majoribus bifasciato; labio exteriore denticulato.*

M. Shell ovate-acute, white, with transverse punctured striæ; the basal whorl thick, with numerous bands consisting of small, and two of large tessellated spots; outer lip toothed.

MUCH uncertainty exists respecting the shell which Linnæus intended for his *Voluta pertusa,* owing to the inaccuracy of the synonyms, which refer to species widely different from each other; the majority of authors have, however, considered it to be the shell figured by Born and Martini, under that name, and recently by myself in *Exotic Conchology*. As a species, it is principally distinguished by the rows of irregular brown spots which are always disposed in transverse bands, running into larger blotches adjoining the suture, and near the base of the body whorl, which is thick and obtuse; the lesser spots are mostly tessellated or quadrangular, but in size they vary considerably in different individuals, and even in the same shell; this has induced Lamarck to separate them into two species, but which, for reasons to be hereafter given, appears to me unnecessary.

The variety here figured is very rare, nor have I seen more than two examples; it differs only from the usual varieties in having the spots remarkably large. In a future plate this species will be further illustrated, and the correct synonyms of all the varieties then given. Inhabits various parts of the Asiatic ocean.



CONUS pulchellus,

Orange Admiral Cone.

GENERIC CHARACTER.—See Pl. 65.

SPECIFIC CHARACTER.

C. testâ aurantiacâ, fasciis albis interruptis ornatâ; spiræ subdepressæ, anfractibus suturam juxta simpliciter sulcatis; suturâ alveatâ; basi granosâ, purpureâ.

Shell orange, with two interrupted white bands; spire slightly depressed, the volutions with a single groove near the margin; suture channelled; base granulated and purple.

I CANNOT find this very beautiful shell enumerated among the new and unfigured species known to Lamarck; and the representations given by the oldest conchologists of this intricate family, are too inaccurate to be cited without much risk.

In form it approaches nearest to *Conus vitulinus* of Bruguiere, having the spire not quite depressed, each volution being slightly raised above the last, gradually to the apex; the upper margin of the body whorl is convex; each volution of the spire has a broad and deep groove nearest the upper edge, which thus becomes elevated, while the convexity of the lower part of the whorl forms a channel round the suture, which separates it from the next; this formation of the spire is very remarkable, and unlike what I have seen in any other Cone. Another distinguishing character is, that the whole shell is crossed by very faint, broad, and almost imperceptible punctured lines, very near each other; in some parts discernible with the naked eye, in others almost obliterated by the longitudinal lines of growth: the granulations towards the base are very sharp and nearly white, and the base itself crossed with rough, thick-set, elevated striæ. No doubt the colour of this species will be found to vary, when more specimens are discovered. The only one I have ever seen, came with some other very rare shells from Amboyna, and is in my own collection.

If the descriptions of C. *canaliculatus* (Malacanus Brug.) be correct, (for it is a shell I have not seen), it must be quite distinct.

PLATYRHYNCHUS cancromus. fem.

Short-tailed Flatbill.

Generic Character.

Platyrhinchos, Temminck. *Sw. Zool. Ill.* (div. I.) Vol. i. pl. 13.

Rostrum tenue, breve, valdè depressum, frontis latitudinem superans, mandibulæ superioris abruptè aduncæ, et ad apicem emarginatæ, marginibus dilatatis, et inferioris margines superplicantibus. Nares medii, basi membranâ pennis minutis instructâ obtectâ, aperturâ parvâ, rotundâ, terminali, tantùm non nudâ. Rictus ampli, ad mandibulæ superioris basin vibrissis rigidis armati. Pedes sedentes, graciles, digitis lateralibus imparibus, digito exteriore ad medii digiti articulum primum annexo, halluce valido.

Bill thin, short, very much depressed, broader than the front of the head; the upper mandible abruptly hooked and notched at the tip; the margins dilated, and folding over those of the under mandible; nostrils central, the base covered with a membrane having minute feathers, the aperture small, round, terminal, and nearly naked; mouth large, armed above with stiff bristles; feet sitting, slender; lateral toes unequal, exterior united to the middle as far as the first joint; hinder claw strongest.

Specific Character.

P. (fem.) suprà olivaceo-fuscus, infrâ pallidè fulvus; jugulo albo; genis pennisque spuriis nigris; strigâ ante et pone oculum, maculoque auriculari albentibus.

(Female) above olive-brown; beneath pale fulvous; throat white; ears and spurious quills black; stripe before and behind the eye, and spot on the ears whitish.

Platyrhinchos cancromus. (male?) *Temminck* and *Laugier*. *Pl. Col.* *Pl.* 12. *f.* 2.

The remarkable breadth of the bill, and the extreme shortness of the tail, in this bird, render it a very singular little creature. Though a native of Brazil, I never met with it during my travels in that country; and the only specimen I have yet seen belongs to Mr. Leadbeater. The figure of

Pl. 115.

P. cancromus of Professor Temminck, differing only from this bird in having a yellow crest, leads me to believe they are sexes of the same species; this being the female bird. The tail in the male appears to be somewhat longer, but this may be an error of delineation, and the description has not yet been published.

The figure is of the natural size, and below is an outline of the bill and nostrils; these latter are depressed, and the base covered with thickset feathers; the aperture is naked, round, and piercing the membrane in a lateral direction, midway between the ridge and margin of the bill, and at the end of the nasal membrane. The plumage above fulvous brown: darker, and tinged with reddish on the margin of the quills and tips of the wing covers: spurious quills and stripe beneath the eyes black: the upper part of the ears are also black, the lower half whitish yellow; chin and throat whitish; breast and body beneath pale fulvous brown; tail remarkably short, and not projecting beyond the wings; upper mandible black, lower white.

Since the publication of the remarks on this genus at Plate 14, a further consideration of the subject induces me to adopt the opinion of Professor Temminck, in placing the *Todus Platyrhynchos*, Gm., and its allies, under a distinct genus; or, in other words, of detaching from this group the second division annexed to my former definition of this genus. Still, however, the close affinities I have there pointed out, render the generic situation of several of these birds very doubtful; because the transition from one to the other is so gradual that even the most accurate set of generic characters, founded on the bill, will not clearly define the limits between the *Platyrhynchus* and *Muscipeta*. Their anatomy might do so, but on this subject we are quite ignorant.

I can gather nothing from the characters which Dr. Horsfield has given in the Linnæan Transactions of his new genus *Eurylaimos;* which does not perfectly agree with those of *Platyrhynchus*. It appears to have precisely the same formation of bill, nostrils, legs, &c. as *P. cancromus*, but in a higher state of development; thus strengthening the opinion I have above expressed.

MUSCIPETA barbata,

Whiskered Flycatcher.

Generic Character.

Rostrum latum, valdè depressum, lateribus aliquando dilatatis, culmine prominente, mandibulæ superioris apice adunco, plerumque emarginato, marginibus mandibulæ planæ inferioris margines superplicantibus. Nares basales, membranâ obtectæ, aperturâ terminali, ovatâ, vibrissis longis armatâ.

Ob. Pedes mediocres vel breves, digito exteriore ad medii articulum secundum annexo, interiore et medio ad basin modò annexis.

Bill broad, much depressed, the sides sometimes dilated, ridge prominent; tip of the upper mandible hooked, and mostly notched, the margins folding over those of the under mandible, which is flat; nostrils at the base of the bill covered by a membrane; the aperture terminal, oval, and defended by long stiff bristles.

Ob. Feet moderate or short; the external toe united to the middle as far as the second joint, the inner and middle toes united only at their base.

Generic Types (*Tem.*) Todus plumbeus, Muscicapa borbonica, Flabellifera, &c.

Specific Character.

M. Supra olivacea, subtus fulva, aureâ cristâ (maribus) insignis; jugulo albido; uropygio pallidè flavo; caudâ nigrâ.

Above olivaceous, beneath fulvous, (male,) with a golden yellow crest; throat whitish; rump pale yellow; tail black.

Muscicapa barbata. *Gmelin.* i. 933. *Lath. In. Orn.* 2, *p.* 488. *n.* 86. *mas.*

Whiskered Flycatcher (male). *Lath. Syn.* 364.

I ONCE shot a pair of these little birds in the forest of Pitanga, about twenty leagues west of Bahia: this is the only instance which I know of their having been found in Brazil. The same bird appears, however, more frequent

in Cayenne, according to the older ornithologists. But whether the bird described by them as the female be really such, admits of great doubt, because Dr. Latham (probably on the authority of Buffon) describes it as having a smaller bill, and a few short hairs, instead of long bristles, at the base; the crown with a spot of yellow, a longer tail, &c. None of these are, in general, sexual distinctions, and, moreover, are at complete variance with the female here figured. The sexes I ascertained by dissection. It follows, therefore, that either the bird found in Cayenne is a distinct species, or that the bird described as its female is not such in reality. This latter supposition I apprehend is nearest the truth.

The figures are of the natural size, the upper representing the female, and the lower the male bird: the head of the former is entirely destitute of the crest which distinguishes the latter; in every other respect the resemblance is uniform. This crest, when not erected, is concealed, being nearly covered by the olive feathers around it. When erected, however, it discloses a stripe down the middle of the head of deep straw-coloured feathers, some of which are tipped with olive. The upper mandible of the bill is triangular, and much hooked, notched, and depressed; the colour is black, the perforations of the nostrils are rather large, and would be naked, were they not partially covered by numerous stiff bristles, which spring from the base of the bill and angle of the mouth; between the eye and bill a pale stripe. The plumage above is dull olive green, with a broad band of very pale yellow across the rump. Wings and their covers brown; tail and upper covers blackish; beneath, the plumage is yellowish, the chin almost white, and the breast and vent tinged with ferruginous; the two first quill feathers are progressively shorter than the third and fourth, which are equal, and longer than the others. Legs and claws short, slender, and pale.

This bird would obviously belong to the second division which I had proposed in my former remarks on *Platyrhynchus*, and it is in every respect allied to *P. Ceylonensis*, *Pl.* 13. My reasons for disturbing this previous arrangement have been already given; and, until a complete investigation is made of the immense genus of Flycatchers, I concur with M. Temminck in the distribution which he has proposed; viz. the arrangement of the European species under the old genus of *Muscicapa*, and of the exotic under that of *Muscipeta*; the characters of which, however, are very imperfect: they are, indeed, at variance with this bird, which has the outer and middle toe connected only to the *first* joint, and the inner toe cleft to the base.

117.

NECTARINIA cyanocephala,

Blue-headed Nectarinia.

Generic Character.

Nectarinia. *Illiger. Cuvier.* Cæreba *Brisson. Temminck.* Certhia. Motacilla *Linn.*

Rostrum longius, gracile, acutum, sub-arcuatum, basi crassâ, lata, trigonâ, lateribus compressis, mandibulâ superiore apicem juxta leviter emarginatâ. Nares basales, ovatæ, breves, membranâ nudâ, in medio ovatè fissâ tectæ. Lingua longa, bifida, apice fibroso, haud extensibilis. Remigum pennæ primæ tres vix pares. Cauda mediocris, emarginata, rectricibus 12, *sub-paribus.*

Bill slender, acute, slightly curved, of variable length, base thick, broad, trigonal, the sides compressed; upper mandible near the tip slightly notched; nostrils basal, oval, short,covered by a naked membrane, in the middle of which is an oval aperture; tongue long, bifid, not extensible, the tip fibrous; the three first quills of nearly equal length, and longer than the rest; tail moderate, emarginate, of 12 nearly equal feathers.

Generic Types, Div. 1. *Certhia cyanea, cayana.* Div. 2. *Certhia spiza, &c.* Linn.

Specific Character.

N. (mas.) cyanea; jugulo, dorso, caudâ alisque nigris, remigibus margine cyaneo ornatis. (Fem.) Viridis; capite, genis scapulisque cærulescentibus; jugulo cano.

(Male.) Changeable blue; throat, back, tail, and wings black; the quills edged with blue. Female green; head, cheeks, and scapulars bluish; throat grey.

Male.

Motacilla cayana. *Linn. Gmelin,* 1. 990.
Sylvia cayana. *Lath. In. Orn.* 2. 545. *Gen. Zool.* 10. 655.
Pepit bleu de Cayenne? *Brisson, Ois. vol.* 3. *pl.* 28. 1.
Cayenne Warbler. *Lath. Syn.* 4. 502. *Gen. Zool.* 10. 655.
Sylvia Cayenensis cærulea. *Brisson, Orn.* 1. *p.* 455.

Female.

Motacilla cyanocephala. *Gmelin,* 1. 990.
Sylvia cyanocephala. *Lath. In. Orn.* 2. 546. *Gen. Zool.* 10. 684.

Pl. 117.

Sylvia viridis. *Brisson, Orn.* 1. *p.* 455.
Le Pepit verd. *Brisson, Ois.* 3. *pl.* 28. *f.* 4.
Blue-headed Warbler. *Lath. Syn.* 4. *p.* 503.
Blue-headed Creeper? *Lath. Syn.* 2. *p.* 727.

Few birds require more illustration than this very beautiful though common species; described by most ornithological writers, but hitherto so little understood, that the two sexes stand as distinct species in a family of birds to which they have, in reality, no natural affinity. According to the Linnæan system it should have been rather placed with the Creepers than the Warblers; an error which has been continued by every subsequent writer, even by Professor Temminck, whose skilful and accurate perception of natural affinities is, in general, so remarkably correct.

That these two birds, however dissimilar in colour, are the sexes only of one species, repeated dissections in their native country have put beyond all doubt; and that it is a genuine *Nectarinia* (or *Cæreba* of Temminck) will appear from submitting it to a rigorous comparison with the characters the Professor himself has laid down for that genus.

Its habits are no less perfectly the same as the rest of the *Nectariniæ;* it is one of the commonest birds of Brazil, and appears spread over the whole extent of that country. It frequents the same trees as the Humming-birds, hopping from flower to flower, and extracting the nectar from each; but this is not done on the wing, because its formation is obviously different from the Humming-birds, which, on the contrary, poise themselves in the air during feeding. The shortness of the bill has evidently given rise to this bird being placed with the Warblers; but this organ is not shorter in proportion than it is in *Nectarinia spiza,* (*Certhia spiza* of Latham).

I am unacquainted with the other varieties of this species mentioned by authors. Of the bird here described, I have never seen any variety, either in Brazil or in our museums. The young males, as usual before moulting, have the colours of the female; one of them, in an intermediate state, is in my possession. As both the figures are of the size of life, and accurately coloured, a fuller description is unnecessary. The rich sky-blue of the male, in some lights, becomes greenish, and in others dark blue. The bill, like that of all the genuine *Nectariniæ,* is slightly notched a little way from the tip, and the base is much broader than high.

CONUS Generalis,

Flambeau Cone.

GENERIC CHARACTER.—See Pl. 65.

SPECIFIC CHARACTER.

C. testâ gracili, fuscâ, fasciis albidis strigis undatis longitudinalibus interruptis ornatâ; spiræ productæ apice acuto, anfractibus concavis, lævibus; basi nigrâ.

Shell slender, brown, with white bands, interrupted by longitudinal stripes; spire produced, the tip acute, whorls concave, smooth; base black.

Conus Generalis. *Gmelin, p.* 33. 75. *var. a. Dillwyn,* 359. *var. a. Martini, vol.* 2. *p.* 58. *f.* 645, 646. *(dark variety) f.* 648 *to* 652. *(pale varieties). Gualt.* 20 *f.* G.

Conus Generalis. *Brug. p.* 642. *Lam. Ann. vol.* 15. *p.* 363.

IT becomes necessary to figure this elegant, but not uncommon Cone, in order to show the young conchologist the little importance that should be attached to *colour* in the discrimination of species: the figures will likewise point out more fully the distinctions between the present shell, *C. maldivus*, and *C. cinctus;* three species, whose close affinity require illustration.

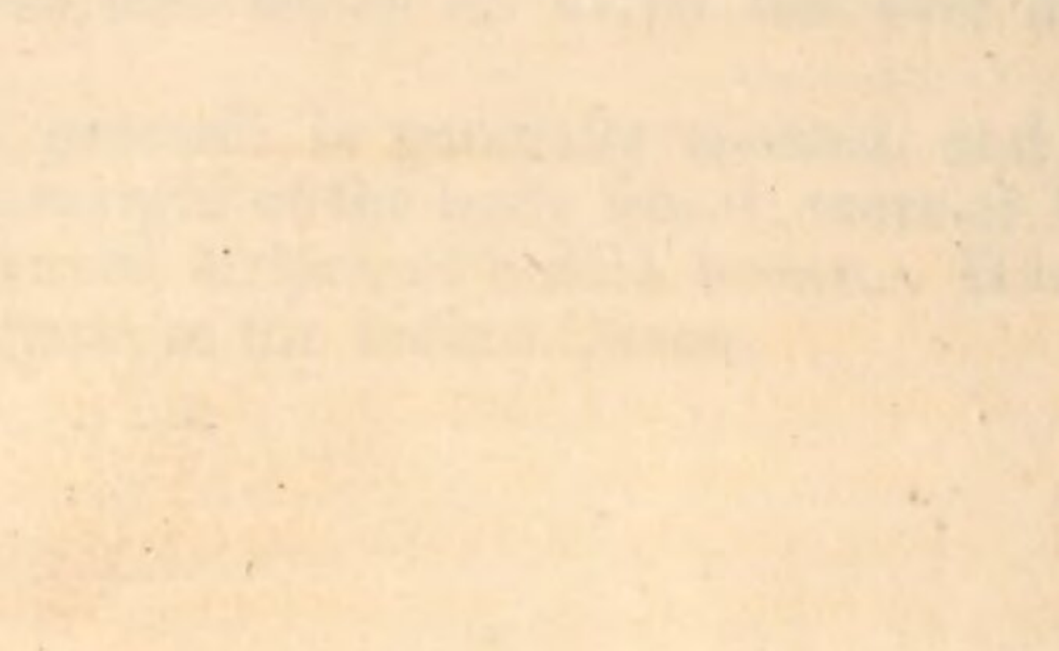
These relative distinctions may be comprised in a few words; they rest principally on the spire, which in *C. generalis* has the upper half much lengthened, slender, and acuminated: in *C. maldivus* the spire is thick and much shorter: the whorls in both these species are quite plain, and nearly flat: the spire of *C. cinctus* resembles the last in form, but is deeply concave and striated. These characters are, I think, very satisfactory as specific distinctions.

On the other hand, some attention to these shells lately, has convinced me that many of the species formed both by Bruguiere and Lamarck should be more correctly considered as varieties; inasmuch as their specific distinctions rest, for the most part, on *colour* alone: this appears, indeed, to be the leading character selected by these eminent conchologists, and to which, therefore, they have attached the greatest importance. From this opinion, however, I completely dissent; on the principle, that no character which

is variable can, with any consistency, be made use of to express permanent distinctions, when not supported by peculiarity of formation or sculpture. The great art in framing the description of a species consists in singling out those characters alone which are most permanent, and exist in every variety of that species; for, when once a character is found to be variable, it no longer becomes a distinction by which a species can be recognised. I consider, therefore, formation and sculpture as the only certain characters of species, and that variation of colour should alone distinguish varieties.

It is therefore not surprising that the specific characters given by MM. Bruguiere and Lamarck, and resting principally on the colours of these shells, are frequently obscure, and always long; two inevitable evils attending every attempt to describe minutely the colour, form, and disposition of the markings of shells. In justice, however, to these great naturalists, it should be observed, that in this attempt they have done that best which no writer has ever done well.

The spire of *C. generalis* is generally spotted, and the white band on the margin of the body whorl, more or less crossed by broad waved stripes of a dark brown. It is an inhabitant of many parts of the Indian Ocean.



AMPULLARIA globosa,
Round Apple Snail.

GENERIC CHARACTER.—See Pl. 103.

SPECIFIC CHARACTER.

A. testâ globosâ, lævissimâ, olivaceâ; spirâ depressâ; aperturæ margine crasso, fulvo, sulcato; umbilico parvo, contracto, juxta basin posito; operculo testaceo.

Shell globose, very smooth, olive; spire depressed; margin of the aperture thick, fulvous, grooved; umbilicus small, contracted, placed near the base; operculum shelly.

Helix Ampullacea. *var. Gmelin, p.* 3626. *no.* 43. *Chemnitz,* 9 *tab.* 128. *fig.* 1133. 1134. *p.* 105.

THIS is the most common of the two shells of this genus, which have their mouths closed by a shelly operculum. It is well described by Chemnitz, and his figures are very tolerable; yet, like all the authors of that period, he considered it as a variety of *Helix ampullacea*. From all these supposed varieties it is, nevertheless, quite distinct; the spire is more depressed than that of any other species, and the umbilicus is placed near the bottom of the inner lip: the whole shell is very smooth, and, although generally of a uniform yellowish olive colour, is sometimes marked by narrow bands of purple brown. The margin of the outer lip is slightly reflected, and the colour, beneath the epidermis, almost white. It is a native of the rivers of India.

From the remarks on this genus, made at Plate 103, the fact of their opercula being either shelly or horny, is sufficiently established. These formations, however, there is every reason to suppose, may generally be detected by the following indications. In such species as have a shelly operculum, the margin of the aperture is thickened all round, and has a parallel internal groove for its reception: the probable use of this groove I have detailed elsewhere. On the other hand, in those species which are known to have horny opercula, this margin and groove do not exist; and that part of the shell which is between the top of the aperture and the

umbilicus, is thin and unprotected. This latter formation is by far the most frequent, and leads to the conclusion that the majority of these shells have their opercula horny.

On the distinctions between this genus and *Planorbis*, little need be said. The principal difference consists in the latter having no operculum; but another, and a very remarkable one, (which seems to have escaped all writers,) is, that the shells of the latter genus are destitute of any columella. The *Planorbis cornu-arietis* of Lamarck, has been removed by Mr. G. Sowerby to this genus. This shell, it is true, appears to be intermediate between one and the other; but the only affinity which it bears to *Ampullaria*, is in the oval form of the aperture; while it is allied to *Planorbis* by its discoid form, want of the columella, and being universally described as without an operculum: the preponderance of evidence is clearly in favour of the situation originally assigned to it by Lamarck.

The characters, therefore, given to the genus *Ampullaria* by Mr. G. Sowerby, will be found incorrect. There was no necessity for explaining, much less for altering, (in this instance,) the masterly definitions of Cuvier and Lamarck. With regard to the second species given by Mr. Sowerby to illustrate this genus, he is no less in error; for the real *A. rugosa*, of all authors, is a strikingly distinct shell from that which he has figured under this name. This will be sufficiently obvious by referring to the figures either of Lister, Chemnitz, or Lamarck.

Having offered these remarks on a subject to which I have paid some attention, I wish to refrain from pointedly noticing other errors and misconceptions into which Mr. G. Sowerby has fallen; rather wishing that greater experience, and more matured judgment, may lead him to do this himself, prior to the publication of the system of Conchology which he has announced.

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ADDENDA ET CORRIGENDA.

Pl. 67. line 5, for "*plumesque*" read "*plumisque.*"
16, for "*gigantia*" read "*gigantea.*"
— 69. — 11, for "excerted" read "exserted."
— 70. — 2, for "*Cane*" read "*Cone.*"
5, for "*fasciique*" read "*fasciisque.*"
24, for "renders" read "render."
— 71. — 7, for "*apertura*" read "*aperturâ.*"
16, for "*urseus*" read "*urceus.*"
11 from the bottom, for "*gracibus*" read "*gracilibus.*"
— 91. — 16, for "and Godart mentions" read "and according to Godart."
— 92. — 13, for "*caudi,*" read "*caudis.*"
8 from the bottom, for "*c.* DENTATIS" read "*c.* DENTATI."
— 92. third page, line 3, for "Medicii" read "Medici."
10, for "*Danais*" read "*Danaus.*"
fourth page, line 10, *dele* "not."
— 95. — 12 from the bottom, after "*angustâ*" add a comma.
second page, line 14 from the bottom, for "*Nectarinia*" read "*Nectariniæ.*"
— 115. second page, line 10 from the bottom, after "between the" add "genera."
line 5 from the bottom, for "*Eurylaimos*" read "*Eurylaimus.*"
— 117. — 6, for "lata" read "latâ."

In the Systematic Index to Vol. I. Conchology, Part I., for "*Acephalis*" read "*Acephali ;*" and at the head of the list of errors, for "Corregenda" read "Corrigenda."

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53. 2.

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Swainson, William,

Zoological illustrations, or original figures and descriptions of new, rare or interesting animals selected chiefly from the classes of Ornithology, Entomology and Conchology and arranged on the principles of Cuvier and other modern zoologists
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